

411USPHRM311.ST25
SEQUENCE LISTING

<110> Vogeli, Gabriel
Lind, Peter
Wood, Linda S.
Parodi, Luis A.

<120> Novel G Protein Coupled Receptor

<130> 411USPHRM311

<150> 60/165,838

<151> 1999-11-16

<150> 09/714,449

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<151> 2000-05-25

<160> 192

<170> PatentIn version 3.0

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 <213> Homo sapiens

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 ggaactttcc ctgggcctct ctgggccaca attcctggcc gagagaaaga ggaggaatga 240
 ggtgagcacc ttcttcactc ctagggccat gtggtagagc tgcagtcgca cctccttctg 300
 ccaataggca tagatgagtg ggttgagcag ggagttgccc acgccgagca gccacaggta 360
 ccgttccagc actaggtaga ggtgacactc ctggcaggcc acctgcacaa tgccagtgat 420
 aaggaagggg gtccaggata gagcaaagct cccaatgaga acagacacag tacggagagc 480
 tttgaagtgc ctgggagtcg gtggggatcg ataacctcca gccatggctc ctgcatgttc 540
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 gacaaagagg agcatggctg ggaagaagcc aacgcaggag agggtcagca cgaagtgagg 660
 gtgaaataca gcaaagaagc tgcactgccc tttgtaggca gtctgctgga acatggggat 720
 tccgagtggg aggaagccaa tgaggtgaaga cactaaccac agcccggcaa tgcaggcccc 780
 ggccacgaac ccactcatga tcttcaagta gcggaagggc tgcttgatgg caaggtacct 840
 gtcaaagggtg atcagcatga ccgtgaggac agaggcagct gcggaggaag tgacaaatgc 900
 catccgcagg ctgcacaggg tcttctgtgt gggccgagaa gggctggaga gctggtctgt 960
 gagtaggcca gagatggcca caccaatcaa ggtgtcagcc acagccagat tcaaggtgaa 1020
 gcagagactg acaccatcat tcttgtggat caacagcagc acagccacag ccactagtgt 1080
 gttagtagca atgatgaggg aggccaggac agcaaggatc actccaaatg agaaagatga 1140
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 Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
 35 40 45
 Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp

50

55

60

Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
65 70 75 80

Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85 90 95

Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
100 105 110

Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
115 120 125

Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
130 135 140

Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
145 150 155 160

Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
165 170 175

Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
180 185 190

Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
195 200 205

Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
210 215 220

Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
225 230 235 240

Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
245 250 255

Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
260 265 270

Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
275 280 285

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
290 295 300

Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
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Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
325 330 335

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gagcgtggcg gtgaaggtg cgaagcggg acgctcaggc tcgggaggca ggcgcagcga 180

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tccggcgtag cgagtgagg agcccactgc cagccactgg tctgcgctca gcgcgccac 360
gctcagcgcc gcgttgagc ccaggaaggt gtccaggaag ccaatgactt ggcatgcgcc 420
gggcgccgac ggtgtccgcc cgcgcatcac accgagcagc gtgaagggca tgtccagcgc 480
cgccagcagc aggtggccca gagacagatt caccaggagg acgcctgagg ctcgagtgcg 540
gagctcagcg ctgtaggcgc aacaaagcag caccagtgcg ttggatagca gcgccacggc 600
cagtaccatc accaggagac ccgccagcag cgcctcgccg gggcccatgg cgctagc 657

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<213> Homo sapiens

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20 25 30
Ala Tyr Ser Ala Glu Leu Arg Thr Arg Ala Ser Gly Val Leu Leu Val
35 40 45
Asn Leu Ser Leu Gly His Leu Leu Leu Ala Ala Leu Asp Met Pro Phe
50 55 60
Thr Leu Leu Gly Val Met Arg Gly Arg Thr Pro Ser Ala Pro Gly Ala
65 70 75 80
Cys Gln Val Ile Gly Phe Leu Asp Thr Phe Leu Ala Ser Asn Ala Ala
85 90 95
Leu Ser Val Ala Ala Leu Ser Ala Asp Gln Trp Leu Ala Val Gly Phe
100 105 110
Pro Leu Arg Tyr Ala Gly Arg Leu Arg Pro Arg Tyr Ala Gly Leu Leu
115 120 125
Leu Gly Cys Ala Trp Gly Gln Ser Leu Ala Phe Ser Gly Ala Ala Leu
130 135 140
Gly Cys Ser Trp Leu Gly Tyr Ser Ser Ala Phe Ala Ser Cys Ser Leu
145 150 155 160
Arg Leu Pro Pro Glu Pro Glu Arg Pro Arg Phe Ala Ala Phe Thr Ala
165 170 175
Thr Leu His Ala Val Gly Phe Val Leu Pro Leu Ala Val Leu Cys Leu
180 185 190
Thr Ser Leu Gln Val His Arg Val Ala Arg Arg His Cys Gln Arg Met
195 200 205
Asp Thr Val Thr Met Lys Ala Leu Ala
210 215

<210> 5
 <211> 222
 <212> DNA
 <213> Homo sapiens

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 ggaaaggaaa tctgtgtatt ttggctcact actgactatc tgttatgtac agcatctgta 120
 tataacattg tcctcatcag ctatgatcga tacctgtcag tctcaaatgc tgtaagtcga 180
 acacattaat ttatccccct tagaagatta tgtaaatgta ta 222

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 1 5 10 15
 Glu Trp Asp Phe Gly Lys Glu Ile Cys Val Phe Trp Leu Thr Thr Asp
 20 25 30
 Tyr Leu Leu Cys Thr Ala Ser Val Tyr Asn Ile Val Leu Ile Ser Tyr
 35 40 45
 Asp Arg Tyr Leu Ser Val Ser Asn Ala Val Ser Arg Thr His Phe Ile
 50 55 60
 Pro Leu Arg Arg Leu Cys Lys Cys Ile
 65 70

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 cagcggggac agggcgggtca ggagcagcag ccaggtccct gcacacgcgg ccaccgcgta 120
 acgacggcgg cgccagcgct tggagctgag cgggtacagg atccccagga agcgctccac 180
 gctgatacag gtcatggtga ggatgctgga atacatgttt gcgtaaaagg ccacggtcac 240
 cacgttgcaa agcagcaccc cgaataccca gtggtggcgg ttgcaatggt agtagatttg 300
 gaaaggcaac acgctggcca gcatcaggtc cgtgacgctc aggttgatca tgaagatgac 360
 cgacggggat ctgggccccca tgcgccggca cagcaccac agagagaaga gggtgcccgg 420
 gatgctgacc gccgccacca gcgagtacac cacgggcagg gccaccgcga tcgccgggtt 480
 ccgcagcatc tgcagcgctc cgttgctc 507

<210> 8
 <211> 169

<212> PRT
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 Leu Pro Val Val Tyr Ser Leu Val Ala Ala Val Ser Ile Pro Gly Asn
 20 25 30
 Leu Phe Ser Leu Trp Val Leu Cys Arg Arg Met Gly Pro Arg Ser Pro
 35 40 45
 Ser Val Ile Phe Met Ile Asn Leu Ser Val Thr Asp Leu Met Leu Ala
 50 55 60
 Ser Val Leu Pro Phe Gln Ile Tyr Tyr His Cys Asn Arg His His Trp
 65 70 75 80
 Val Phe Gly Val Leu Cys Asn Leu Val Val Thr Val Ala Phe Tyr Ala
 85 90 95
 Asn Met Tyr Ser Ser Ile Leu Thr Met Thr Cys Ile Ser Val Glu Arg
 100 105 110
 Phe Leu Gly Ile Leu Tyr Pro Leu Ser Ser Lys Arg Trp Arg Arg Arg
 115 120 125
 Arg Tyr Ala Val Ala Ala Cys Ala Gly Thr Trp Leu Leu Leu Leu Thr
 130 135 140
 Ala Leu Ser Pro Leu Ala Arg Thr Asp Leu Thr Tyr Pro Val His Ala
 145 150 155 160
 Leu Gly Ile Ile Thr Cys Phe Asp Val
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<210> 9
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 gccgccaaca tctactgtc ggggccgctc acgtgaaac tgtccccgc gctctgggtc 120
 gcacgggagg gaggcgtctt cgtggcactc actgcgtccg tgctgagcct cctgggcatc 180
 gcgctggagc gcagcctcac catggcgcg cagggggccc cgcccgctc cagtcggggg 240
 cgcacgctgg cgatggcagc cgcggcctgg 270

<210> 10
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 10

Pro Met Phe Leu Leu Leu Gly Ser Leu Thr Leu Ser Asp Leu Leu Ala
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Gly Ala Ala Tyr Ala Ala Asn Ile Leu Leu Ser Gly Pro Leu Thr Leu
 20 25 30
 Lys Leu Ser Pro Ala Leu Trp Phe Ala Arg Glu Gly Gly Val Phe Val
 35 40 45
 Ala Leu Thr Ala Ser Val Leu Ser Leu Leu Gly Ile Ala Leu Glu Arg
 50 55 60
 Ser Leu Thr Met Ala Arg Arg Gly Pro Ala Pro Val Ser Ser Arg Gly
 65 70 75 80
 Arg Thr Leu Ala Met Ala Ala Ala Ala Trp
 85 90

<210> 11
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 <212> DNA
 <213> Homo sapiens

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 gatttcctcc ttatgatctg cctgcctttt cggacagact attacctcag acgtagacac 180
 tgggcttttg gggacattcc ctgccgagtg gggctcttca cgttggccat gaacagggcc 240
 gggagcatcg tgttccttac ggtggtggct gcggacaggt atttcaaagt ggtccacccc 300
 caccacgcgg tgaacactat ctccaccggt gtggcggtcg gcatcgctcg caccctgtgg 360
 gccctgggtca tcctgggaac agtgtatctt ttgctggaga accatctctg cgtgcaagag 420
 acggccgtct cctgtgagag cttcatcatg gagtcggcca atggctggca tgacatcatg 480
 ttccagctgg agttctttat gccctcggc atcatcttat tttgctcctt caagattgtt 540
 tggagcctga ggcggaggca gcagctggcc agacaggctc ggatgaagaa ggcgacccgg 600
 ttcacatcatg tgggtggcaat tgtgttcac acatgctacc tgcccagcgt gtctgctaga 660
 ctctatttcc tctggacggt gccctcgagt gcctgcgac cctctgtcca tggggccctg 720
 cacataaccc tcagcttcac ctacatgaac agcatgctgg atcccctggt gtattatttt 780
 tcaagcccct cctttcccaa attctacaac aagctcaaaa tctgcagtct gaaacccaag 840
 cagccaggac actcaaaaac acaaaggccg gaagagatgc caatttcg 888

<210> 12
 <211> 296
 <212> PRT
 <213> Homo sapiens

<400> 12
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Tyr Leu Phe Asn Leu Ala Val Ala Asp Phe Leu Leu Met Ile Cys Leu
 35 40 45

Pro Phe Arg Thr Asp Tyr Tyr Leu Arg Arg Arg His Trp Ala Phe Gly
 50 55 60

Asp Ile Pro Cys Arg Val Gly Leu Phe Thr Leu Ala Met Asn Arg Ala
 65 70 75 80

Gly Ser Ile Val Phe Leu Thr Val Val Ala Ala Asp Arg Tyr Phe Lys
 85 90 95

Val Val His Pro His His Ala Val Asn Thr Ile Ser Thr Arg Val Ala
 100 105 110

Ala Gly Ile Val Cys Thr Leu Trp Ala Leu Val Ile Leu Gly Thr Val
 115 120 125

Tyr Leu Leu Leu Glu Asn His Leu Cys Val Gln Glu Thr Ala Val Ser
 130 135 140

Cys Glu Ser Phe Ile Met Glu Ser Ala Asn Gly Trp His Asp Ile Met
 145 150 155 160

Phe Gln Leu Glu Phe Phe Met Pro Leu Gly Ile Ile Leu Phe Cys Ser
 165 170 175

Phe Lys Ile Val Trp Ser Leu Arg Arg Arg Gln Gln Leu Ala Arg Gln
 180 185 190

Ala Arg Met Lys Lys Ala Thr Arg Phe Ile Met Val Val Ala Ile Val
 195 200 205

Phe Ile Thr Cys Tyr Leu Pro Ser Val Ser Ala Arg Leu Tyr Phe Leu
 210 215 220

Trp Thr Val Pro Ser Ser Ala Cys Asp Pro Ser Val His Gly Ala Leu
 225 230 235 240

His Ile Thr Leu Ser Phe Thr Tyr Met Asn Ser Met Leu Asp Pro Leu
 245 250 255

Val Tyr Tyr Phe Ser Ser Pro Ser Phe Pro Lys Phe Tyr Asn Lys Leu
 260 265 270

Lys Ile Cys Ser Leu Lys Pro Lys Gln Pro Gly His Ser Lys Thr Gln
 275 280 285

Arg Pro Glu Glu Met Pro Ile Ser
 290 295

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 tgcaagctgg tgcaacttct gttctatatc aacctttacg gcagcatcct gctgctgacc 180
 tgcacatctg tgcaccagtt cctaggtgtg tgccaccac tgtgttcgct gccctaccgg 240

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atgaccagcc aagagaatct tgatcggtct ttgacctacg gcatagttct gacattgtct   420
ggctttcttt ccttccttgg tcattttggt gtgctattca ctgatggtca ggagcctgat   480
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20        25        30
Arg Trp Pro Phe Gly Glu Leu Leu Cys Lys Leu Val His Phe Leu Phe
35        40        45
Tyr Ile Asn Leu Tyr Gly Ser Ile Leu Leu Leu Thr Cys Ile Ser Val
50        55        60
His Gln Phe Leu Gly Val Cys His Pro Leu Cys Ser Leu Pro Tyr Arg
65        70        75        80
Thr Arg Arg His Ala Trp Leu Gly Thr Ser Thr Thr Trp Ala Leu Val
85        90        95
Val Leu Gln Leu Leu Pro Thr Leu Ala Phe Ser His Thr Asp Tyr Ile
100       105       110
Asn Gly Gln Met Ile Trp Tyr Asp Met Thr Ser Gln Glu Asn Phe Asp
115       120       125
Arg Leu Phe Ala Tyr Gly Ile Val Leu Thr Leu Ser Gly Phe Leu Ser
130       135       140
Leu Leu Gly His Phe Gly Val Leu Phe Thr Asp Gly Gln Glu Pro Asp
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Gln Ala Arg Gly Glu Pro His Glu Asp Arg
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<222> (431)..(461)
<223> n is any nucleotide

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 cagcagctgg ctcatcttca ggctctgcac cttggcgcg ggcacgcgc tgggcgcacg 180
 gggtccacct gggctcgccg accaggccgc tgcacccgct ggggccttca gccggtgccg 240
 ccaccagacg gagagtaggt ggccacaagc gacacccatg atcttaacag gcgcgacgaa 300
 gcccgcgacg gcctcataga acgcgtacac ctgcacgtgc cagcgctgca ggagcgcgaa 360
 gatccagtgg cagcgacgca tccccggcca ggctcgggcg gagagtggcg cgcctggctg 420
 cagagacgtt nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nagtactagc gcaccacaaa 480
 ccccgacccc cgcgccagca gcagtgccag cagccagccc agggcggcga gggcacgcgc 540
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 caggtcccc gtggccgcgc ggggctcgcc cagcagttcc caggccagct gtgacagcgc 720
 cgtgcccccg cagcgtaca ggtccgccag gccagctgc accagcagga agtccatctt 780
 gcgacgcttn nnnnnnnnnn nnnnnnnnnn nnnnnnnnac aggcggcaca gcaactgtggt 840
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 <222> (26)..(35)
 <223> Xaa is unknown

<220>
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 <222> (144)..(154)
 <223> Xaa is Unknown

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 20 25 30
 Xaa Xaa Xaa Lys Arg Arg Lys Met Asp Phe Leu Leu Val Gln Leu Ala
 35 40 45
 Leu Ala Asp Leu Tyr Ala Cys Gly Gly Thr Ala Leu Ser Gln Leu Ala
 50 55 60
 Trp Glu Leu Leu Gly Glu Pro Arg Ala Ala Thr Gly Asp Leu Ala Cys
 65 70 75 80
 Arg Phe Leu Gln Leu Leu Gln Ala Ser Gly Arg Gly Ala Ser Ala His
 85 90 95

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Leu Val Val Leu Ile Ala Leu Glu Arg Arg Arg Ala Val Arg Leu Pro
 100 105 110
 His Gly Arg Pro Leu Pro Ala Arg Ala Leu Ala Ala Leu Gly Trp Leu
 115 120 125
 Leu Ala Leu Leu Leu Ala Arg Gly Ser Gly Phe Val Val Arg Tyr Xaa
 130 135 140
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Thr Ser Leu Gln Pro Gly
 145 150 155 160
 Ala Pro Leu Ser Ala Arg Ala Trp Pro Gly Met Arg Arg Cys His Trp
 165 170 175
 Ile Phe Ala Leu Leu Gln Arg Trp His Val Gln Val Tyr Ala Phe Tyr
 180 185 190
 Glu Ala Val Ala Gly Phe Val Ala Pro Val Lys Ile Met Gly Val Ala
 195 200 205
 Cys Gly His Leu Leu Ser Val Trp Trp Arg His Arg Leu Lys Ala Pro
 210 215 220
 Ala Gly Ala Ala Ala Trp Ser Ala Ser Pro Gly Gly Ala Arg Ala Pro
 225 230 235 240
 Ser Ala Met Pro Arg Ala Lys Val Gln Ser Leu Lys Met Ser Gln Leu
 245 250 255
 Leu Gly Leu Leu Phe Val Gly Cys Glu Leu Pro Phe Ala Asp Arg Leu
 260 265 270
 Glu Ala Ala Trp Ser Ser Gly Pro Ala Gly Glu Trp Glu Gly Glu Ala
 275 280 285
 Leu Ser Ala Cys Cys Ala Trp Trp
 290 295

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 ggggaggagg tagaatagga aggaggtgac ctggatgatg aaattgtaga tccacatggg 180
 cttgatgacc gtacaggtgg ccgaacctgg gaccaggac ccattgggga agtagtgga 240
 cttgatgcca tggatgctgg tggtgggcag ggagaagagc acggagaagc ccagacgat 300
 gccgaggatc ctgagggccg ggcgccgggt gctctgcagt ttggcgcgga acgggtgtag 360
 gatggccacg tagcgctcca cgctgacggt ggtgatgctg aggatggagg cgaagcacac 420
 ggtctcaaag agggccgtct tgaagtagca gccacgggc ccgaacaaga aagggtagtt 480
 gcgccacatc tcatagacct ccaggggcat tccaaggagc aggaccagga ggtagagac 540
 cgccaggctg aagaggtagt agttggtggg cgtcttcata gcctggtgct gcagaatcac 600

caggcacacc aggacattgc caatgacccc caccacaaaa attggcacat acaccacaga 660
cacggggagg aagaagtggc tgcgccgagg tccgcagagg aaggccagat actcctcggg 720
gctgttcagg tgtttctgga atggatcttc tagtttctgc tggtagatcc aggaagcatt 780
ctgaagtttt tccatccctg a 801

<210> 18
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<212> PRT
<213> Homo sapiens

<400> 18

Ser Gly Met Glu Lys Leu Gln Asn Ala Ser Trp Ile Tyr Gln Gln Lys
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Leu Glu Asp Pro Phe Gln Lys His Leu Asn Ser Thr Glu Glu Tyr Leu
20 25 30
Ala Phe Leu Cys Gly Pro Arg Arg Ser His Phe Phe Leu Pro Val Ser
35 40 45
Val Val Tyr Val Pro Ile Phe Val Val Gly Val Ile Gly Asn Val Leu
50 55 60
Val Cys Leu Val Ile Leu Gln His Gln Ala Met Lys Thr Pro Asn Thr
65 70 75 80
Tyr Tyr Leu Phe Ser Leu Ala Val Ser Asp Leu Leu Val Leu Leu Leu
85 90 95
Gly Met Pro Leu Glu Val Tyr Glu Met Trp Arg Asn Tyr Pro Phe Leu
100 105 110
Phe Gly Pro Val Gly Cys Tyr Phe Lys Thr Ala Leu Phe Glu Thr Val
115 120 125
Cys Phe Ala Ser Ile Leu Ser Ile Thr Thr Val Ser Val Glu Arg Tyr
130 135 140
Val Ala Ile Leu His Pro Phe Arg Ala Lys Leu Gln Ser Thr Arg Arg
145 150 155 160
Arg Ala Leu Arg Ile Leu Gly Ile Val Trp Gly Phe Ser Val Leu Phe
165 170 175
Ser Leu Pro Asn Thr Ser Ile His Gly Ile Lys Phe His Tyr Phe Pro
180 185 190
Asn Gly Ser Leu Val Pro Gly Ser Ala Thr Cys Thr Val Ile Lys Pro
195 200 205
Met Trp Ile Tyr Asn Phe Ile Ile Gln Val Thr Ser Phe Leu Phe Tyr
210 215 220
Leu Leu Pro Met Thr Val Ile Ser Val Leu Tyr Tyr Leu Met Ala Leu
225 230 235 240
Arg Val Ser Ile Ala Gly Val Ala Gly
245

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<210> 19
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 19
 atcaagatga tttttgctat cgtgcaaatt attggatttt ccaactccat ctgtaatccc 60
 attgtctatg catttatgaa tgaaaacttc aaaaaaatg ttttgtctgc agtttgttat 120
 tgcatagtaa ataaaacctt ctctccagca caaaggcatg gaaattcagg aattacaatg 180
 atgcggaaga aagcaaagtt ttccctcaga gagaatccag tg 222

<210> 20
 <211> 73
 <212> PRT
 <213> Homo sapiens

<400> 20

Ile Lys Met Ile Phe Ala Ile Val Gln Ile Ile Gly Phe Ser Asn Ser
 1 5 10 15

Ile Cys Asn Pro Ile Val Tyr Ala Phe Met Asn Glu Asn Phe Lys Lys
 20 25 30

Asn Val Leu Ser Ala Val Cys Tyr Cys Ile Val Asn Lys Thr Phe Ser
 35 40 45

Pro Ala Gln Arg His Gly Asn Ser Gly Ile Thr Met Met Arg Lys Lys
 50 55 60

Ala Lys Phe Ser Leu Arg Glu Asn Pro
 65 70

<210> 21
 <211> 447
 <212> DNA
 <213> Homo sapiens

<400> 21
 gccacagcat gcagttttct gtagaattcc actttgtctt tgcacttgaa gaagatgagg 60
 tatctggtga ccaggatcac cacatagaat aggaaccgtg aggtacatgt ggatgtgcag 120
 catggcactc acaaatttgc agaagggcag ccaaacatc caagtcttct tgatgaggta 180
 ggtcaagcga aatggcactg tcagcagaaa aacgctgtgg accaccacca agttaatgac 240
 cgccatggtg gtcactgacc ggggtgttcat tttcaccagg aggaaaagaa tggaaatgac 300
 acccaccagc ccgccaataa gcactatgaa gtagaggctg attaagtggg gtgtcactat 360
 aggatcgcaa gaggaattcc tggaggtatt gtggccaggc atacttggga agtcacctgg 420
 aggagaaaaa gcaccagagt aactgac 447

<210> 22
 <211> 149
 <212> PRT
 <213> Homo sapiens

<400> 22

Val Ser Tyr Ser Gly Ala Phe Ser Pro Pro Gly Asp Phe Pro Ser Met
 1 5 10 15
 Pro Gly His Asn Thr Ser Arg Asn Ser Ser Cys Asp Pro Ile Val Thr
 20 25 30
 Pro His Leu Ile Ser Leu Tyr Phe Ile Val Leu Ile Gly Gly Leu Val
 35 40 45
 Gly Val Ile Ser Ile Leu Phe Leu Leu Val Lys Met Asn Thr Arg Ser
 50 55 60
 Val Thr Thr Met Ala Val Ile Asn Leu Val Val Val His Ser Val Phe
 65 70 75 80
 Leu Leu Thr Val Pro Phe Arg Leu Thr Tyr Leu Ile Lys Lys Thr Trp
 85 90 95
 Met Phe Gly Leu Pro Phe Cys Lys Phe Val Ser Ala Met Leu His Ile
 100 105 110
 His Met Tyr Leu Thr Val Pro Ile Leu Cys Gly Asp Pro Gly His Gln
 115 120 125
 Ile Pro His Leu Leu Gln Val Gln Arg Gln Ser Gly Ile Leu Gln Lys
 130 135 140
 Thr Ala Cys Cys Gly
 145

<210> 23
 <211> 222
 <212> DNA
 <213> Homo sapiens

<400> 23
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 gttggcgctt gcaatcgac ctaccacaaa cttgaccggg ggcagggggg caggcccgc 120
 agcgaacacg gtcagcagca ccagtccatt gcagagcacg gagagcaaca cgatggccca 180
 cacggccagg cggtatcccc agctttcaaa gaggtactca ca 222

<210> 24
 <211> 74
 <212> PRT
 <213> Homo sapiens

<400> 24

Cys Glu Tyr Leu Phe Glu Ser Trp Gly Ile Arg Leu Ala Val Trp Ala
 1 5 10 15
 Ile Val Leu Leu Ser Val Leu Cys Asn Gly Leu Val Leu Leu Thr Val
 20 25 30
 Phe Ala Gly Gly Pro Ala Pro Leu Pro Pro Val Lys Phe Val Val Gly
 35 40 45
 Ala Ile Ala Gly Ala Asn Thr Leu Thr Gly Ile Ser Cys Gly Leu Leu
 50 55 60

Ala Ser Val Asp Ala Leu Thr Leu Val Ser
65 70

<210> 25
<211> 246
<212> DNA
<213> Homo sapiens

<400> 25
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tgctgcggac gccactcctg cggcagagac ccgagtggct cccagcagtc ggcgagcgcg 120
gctgaggctt ccgggggcct gcgccgctgc ctgcccccg gccttgatgg gagcttcagc 180
ggctcggagc gctcatcgcc ccagcgcgac gggctggaca ccagcggctc cacaggcagc 240
cccggt 246

<210> 26
<211> 82
<212> PRT
<213> Homo sapiens

<400> 26
Asn Pro Ile Ile Tyr Thr Leu Thr Asn Arg Asp Leu Arg His Ala Leu
1 5 10 15
Leu Arg Leu Val Cys Cys Gly Arg His Ser Cys Gly Arg Asp Pro Ser
20 25 30
Gly Ser Gln Gln Ser Ala Ser Ala Ala Glu Ala Ser Gly Gly Leu Arg
35 40 45
Arg Cys Leu Pro Pro Gly Leu Asp Gly Ser Phe Ser Gly Ser Glu Arg
50 55 60
Ser Ser Pro Gln Arg Asp Gly Leu Asp Thr Ser Gly Ser Thr Gly Ser
65 70 75 80
Pro Gly

<210> 27
<211> 420
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (81)..(106)
<223> n is any nucleic acid

<400> 27
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tcgcgggtcc gcagcctcct nnnnnnnnnn nnnnnnnnnn nnnnnntggc agagcttgcg 120
cgcgatgcgg gcgtacatga ccacgatgag cgccagcggc gccaggtaga tgtgcgagaa 180
gagcacagtg gtgtagaccc tgcgcatgcc cttctcgggc caggcctccc agcaggagta 240

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gagagggtag gagcggttgc gggcgtccac catgaagtgg tgctcctcac gggtgacggt 300
 cagcgtgacg gccgagggac acatgatgag cagcgccagg gccagatga cggcgatggt 360
 gacgagcgcc ttccgcaggg tcagcttctc gcggaaaggg tgcacgatgc agcggaacct 420

<210> 28
 <211> 139
 <212> PRT
 <213> Homo sapiens
 <220>
 <221> UNSURE
 <222> (104)..(113)
 <223> Xaa is Unknown

<400> 28

Phe Arg Cys Ile Val His Pro Phe Arg Glu Lys Leu Thr Leu Arg Lys
 1 5 10 15
 Ala Leu Val Thr Ile Ala Val Ile Trp Ala Leu Ala Leu Leu Ile Met
 20 25 30
 Cys Pro Ser Ala Val Thr Leu Thr Val Thr Arg Glu Glu His His Phe
 35 40 45
 Met Val Asp Ala Arg Asn Arg Ser Tyr Pro Leu Tyr Ser Cys Trp Glu
 50 55 60
 Ala Trp Pro Glu Lys Gly Met Arg Arg Val Tyr Thr Thr Val Leu Phe
 65 70 75 80
 Ser His Ile Tyr Leu Ala Pro Leu Ala Leu Ile Val Val Met Tyr Ala
 85 90 95
 Arg Ile Ala Arg Lys Leu Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 100 105 110
 Xaa Glu Ala Ala Asp Pro Arg Ala Ser Arg Arg Arg Ala Arg Val Val
 115 120 125
 His Met Leu Val Met Val Ala Leu Phe Phe Thr
 130 135

<210> 29
 <211> 318
 <212> DNA
 <213> Homo sapiens

<400> 29
 gcagggggcg tgagtcctca ggcacttctt gaggtccttg ttgagcagga agcagacaat 60
 tgggttgacg gcagcctggg cgaagctcat ccaaacagca gtggccaggt agcgggtggg 120
 cacagcacag gctttcacaa aactcgcga gtagcaggcc acgatgtagg gtgaccagag 180
 gagcagaaaag agcagtgtga tcgcgtagaa catgcggccc agctgctttt cacccttgac 240
 ctctccatg cccagtagcc gccggtggc tgcattgcca ttctgcccga taccagcag 300
 gggtggtggc atgggccc 318

<210> 30
 <211> 106
 <212> PRT
 <213> Homo sapiens

<400> 30

Gly Pro Met Pro Pro Thr Leu Leu Gly Ile Arg Gln Asn Gly His Ala
 1 5 10 15

Ala Ser Arg Arg Leu Leu Gly Met Asp Glu Val Lys Gly Glu Lys Gln
 20 25 30

Leu Gly Arg Met Phe Tyr Ala Ile Thr Leu Leu Phe Leu Leu Leu Trp
 35 40 45

Ser Pro Tyr Ile Val Ala Cys Tyr Trp Arg Val Phe Val Lys Ala Cys
 50 55 60

Ala Val Pro His Arg Tyr Leu Ala Thr Ala Val Trp Met Ser Phe Ala
 65 70 75 80

Gln Ala Ala Val Asn Pro Ile Val Cys Phe Leu Leu Asn Lys Asp Leu
 85 90 95

Lys Lys Cys Leu Arg Thr His Ala Pro Cys
 100 105

<210> 31
 <211> 354
 <212> DNA
 <213> Homo sapiens

<400> 31

tattctgtaa tgaagaatgt cattcacact gccattggca catccagtgg cctcacctag 60
 cattgtgaaa gcccttcggt tgggtgtattg ccacttcatt ttaaaaggat gcacaagtcc 120
 ctggtgcctt tccacagcaa tgcagggtcat agtgaggatt tctgtcacia cagcggtaga 180
 ctggacaaat ggcaccatct tgcaaatgaa agcacctgca gtaaggaaat aggataaatc 240
 atacatcaaa acaaaaagaa taaaggtttc atctgtgtct ttgtaattat cactatcagt 300
 ccattctgag cctctgccaa aaagtgtgat aattgtaatt actctgtaga caca 354

<210> 32
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 32

Val Tyr Arg Val Ile Thr Ile Ile Lys Leu Phe Gly Arg Gly Ser Glu
 1 5 10 15

Trp Thr Asp Ser Asp Asn Tyr Lys Asp Thr Asp Glu Thr Phe Ile Leu
 20 25 30

Phe Val Leu Met Tyr Asp Leu Ser Tyr Phe Leu Thr Ala Gly Ala Phe
 35 40 45

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Ile Cys Lys Met Val Pro Phe Val Gln Ser Thr Ala Val Val Thr Glu
50 55 60

Ile Leu Thr Met Thr Cys Ile Ala Val Glu Arg His Gln Gly Leu Val
65 70 75 80

His Pro Phe Lys Met Lys Trp Gln Tyr Thr Asn Arg Arg Ala Phe Thr
85 90 95

Met Leu Gly Glu Ala Thr Gly Cys Ala Asn Gly Ser Val Asn Asp Ile
100 105 110

Leu His Tyr Arg Ile
115

<210> 33

<211> 621

<212> DNA

<213> Homo sapiens

<400> 33

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agtgttgatc atgctgttgc tcatggcgat gcactcgacg atgtagaagg cagtgaggta 120

gtgcttctcc ttcacaaaca cggtaggggaa gaagtcgcgc acgatggtga agccgtagaa 180

ggcgccccag catagcacgt aggcggtgag gatgcacatg agcaccagga ccgtcttcct 240

gcggcagcgc agcctcttgc ggatctgctc tgtctggaat ccagggaccg ccttgaacca 300

gagctcccg gagatcctgg catagcacag ggtcatggtg accacggggc ccacgaattc 360

tatgccaaag ataaagagga agtaggactt gtagtagagc tgctggtcca caggccagat 420

ctggcccgag aagatctttt cctggctctt gacaatgacg aggaccgtct cgggtggtgaa 480

gtaggcggaa gggatggcga tcaggatgga caccgtccac accaaggcaa tcaggccagt 540

ggctgtttgg cacttcattc gtggtctcag cggatggaca atagccagat acctagggca 600

agaacacaag tggaggcagc c 621

<210> 34

<211> 207

<212> PRT

<213> Homo sapiens

<400> 34

Gly Cys Leu His Leu Cys Ser Cys Pro Arg Tyr Leu Ala Ile Val His
1 5 10 15

Pro Leu Arg Pro Arg Met Lys Cys Gln Thr Ala Thr Gly Leu Ile Ala
20 25 30

Leu Val Trp Thr Val Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe
35 40 45

Thr Thr Glu Thr Val Leu Val Ile Val Lys Ser Gln Glu Lys Ile Phe
50 55 60

Cys Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr
65 70 75 80

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Phe Leu Phe Ile Phe Gly Ile Glu Phe Val Gly Pro Val Val Thr Met
 85 90 95
 Thr Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val
 100 105 110
 Pro Gly Phe Gln Thr Glu Gln Ile Arg Lys Arg Leu Arg Cys Arg Arg
 115 120 125
 Lys Thr Val Leu Val Leu Met Cys Ile Leu Thr Ala Tyr Val Leu Cys
 130 135 140
 Trp Ala Pro Phe Tyr Gly Phe Thr Ile Val Arg Asp Phe Phe Pro Thr
 145 150 155 160
 Val Phe Val Lys Glu Lys His Tyr Leu Thr Ala Phe Tyr Ile Val Glu
 165 170 175
 Cys Ile Ala Met Ser Asn Ser Met Ile Asn Thr Leu Cys Phe Val Thr
 180 185 190
 Val Lys Asn Asp Thr Val Lys Tyr Phe Lys Lys Ile Met Leu Leu
 195 200 205

<210> 35
 <211> 483
 <212> DNA
 <213> Homo sapiens

<400> 35
 cagccacact gcagtgatga aatcaaagt ccaacaccaa ccatagtcac cattactaac 60
 taagaagcca caaaacttcc ctccagggt gttcagcagc agggacaggg cccagggcag 120
 ggcacacatg acagttgaca ggtttcttgg gcagcagcag cagtaccaga taggccgcag 180
 gacagacagg cagcactcag tactgatggc actcagcatg ctcaggccta caaggtaggc 240
 aaaggtcatc acgctggtga agaagctagg gaaattgatg gagatggaac agaagaagtt 300
 actgaggtac accaggcaat ttataatctg gaagcagagg aagaggaagt cgccccggc 360
 caggctgagg acgtagacag agaaggcggt cctgcgcagc cggaagccca ggagccagag 420
 cacaaacccg tttcctacca gcccgaccag ggcaatgaaa aggatcagga agaccgggat 480
 cag 483

<210> 36
 <211> 161
 <212> PRT
 <213> Homo sapiens

<400> 36
 Leu Ile Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val
 1 5 10 15
 Gly Asn Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn
 20 25 30
 Ala Phe Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe
 35 40 45

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Leu Cys Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe
 50 55 60
 Cys Ser Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Ser Val Met Thr
 65 70 75 80
 Phe Ala Tyr Leu Val Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu
 85 90 95
 Cys Cys Leu Ser Val Leu Arg Pro Ile Trp Tyr Cys Cys Cys Cys Pro
 100 105 110
 Arg Asn Leu Ser Thr Val Met Cys Ala Leu Pro Trp Ala Leu Ser Leu
 115 120 125
 Leu Leu Asn Thr Leu Glu Gly Lys Phe Cys Gly Phe Leu Val Ser Asn
 130 135 140
 Gly Asp Tyr Gly Trp Cys Trp Thr Phe Asp Phe Ile Thr Ala Val Trp
 145 150 155 160
 Leu

<210> 37
 <211> 330
 <212> DNA
 <213> Homo sapiens
 <400> 37
 gagagtctga ttctgactta catcacatat gtaggcctgg gcattttctat ttgcagcctg 60
 atccttttgct tgtccgttga ggtcctagtc tggagccaag tgacaaagac agagatcacc 120
 tatttacgcc atgtgtgcat tgtaacatt gcagccactt tgctgatggc agatgtgtgg 180
 ttcatgtgg cttcctttct tagtggccca ataacacacc acaagggatg tgtggcagcc 240
 acattttttg gtcatttctt ttacctttct gtatttttct ggatgcttgc caaggcactc 300
 cttatcctct atggaatcat gattgttttc 330
 <210> 38
 <211> 110
 <212> PRT
 <213> Homo sapiens
 <400> 38

Glu Ser Leu Ile Leu Thr Tyr Ile Thr Tyr Val Gly Leu Gly Ile Ser
 1 5 10 15
 Ile Cys Ser Leu Ile Leu Cys Leu Ser Val Glu Val Leu Val Trp Ser
 20 25 30
 Gln Val Thr Lys Thr Glu Ile Thr Tyr Leu Arg His Val Cys Ile Val
 35 40 45
 Asn Ile Ala Ala Thr Leu Leu Met Ala Asp Val Trp Phe Ile Val Ala
 50 55 60
 Ser Phe Leu Ser Gly Pro Ile Thr His His Lys Gly Cys Val Ala Ala
 65 70 75 80

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Thr Phe Phe Gly His Phe Phe Tyr Leu Ser Val Phe Phe Trp Met Leu
 85 90 95

Ala Lys Ala Leu Leu Ile Leu Tyr Gly Ile Met Ile Val Phe
 100 105 110

<210> 39
 <211> 628
 <212> DNA
 <213> Homo sapiens

<400> 39
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 ctttaaataa ggacagtaaa tcccatacgg caggggtggtg gggagaatca gagatgatac 180
 agctggtgat cacatctggt ttgtgttccc aggggcacca gactaggggt tctgagcatg 240
 gatccaaccg tcccagtctt cggtaaaaa ctgacaccaa tcaacggacg tgaggagact 300
 ccttgctaca atcagaccct gagcttcacg gtgctgacgt gcatcatttc ccttgctcga 360
 ctgacaggaa acgcggtagt gctctggctc ctgggctacc gcatgcgcag gaacgctgtc 420
 tccatctaca tcctcaacct ggccgcagca gacttcctct tcctcagctt ccagattata 480
 cgttcgccat tacgcctcat caatatcagc catctcatcc gcaaaatcct cgtttctgtg 540
 atgacctttc cctactttac aggcctgagt atgctgagcg ccatcagcac cgagcgctgc 600
 ctgtctgttc tgtggcccat ctggtacc 628

<210> 40
 <211> 205
 <212> PRT
 <213> Homo sapiens

<400> 40
 Leu Cys Gly Ser Arg Glu Met Ser Gly Phe Arg Val Asn Lys Asn Trp
 1 5 10 15
 Ile Ser Asn Trp Ile Gly Pro Pro Pro Leu Val Ser Asp Leu Leu Ser
 20 25 30
 Ala Ser Leu Cys Phe Ser Leu Leu Met Arg Thr Val Asn Pro Ile Arg
 35 40 45
 Gln Gly Gly Gly Glu Asn Gln Arg Tyr Ser Trp Ser His Leu Val Cys
 50 55 60
 Val Pro Arg Gly Thr Arg Leu Gly Phe Leu Ser Met Asp Pro Thr Val
 65 70 75 80
 Pro Val Phe Gly Thr Lys Leu Thr Pro Ile Asn Gly Arg Glu Glu Thr
 85 90 95
 Pro Cys Tyr Asn Gln Thr Leu Ser Phe Thr Val Leu Thr Cys Ile Ile
 100 105 110
 Ser Leu Val Gly Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly

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115

120

125

Tyr Arg Met Arg Arg Asn Ala Val Ser Ile Tyr Ile Leu Asn Leu Ala
 130 135 140

Ala Ala Asp Phe Leu Phe Leu Ser Phe Gln Ile Ile Arg Ser Pro Leu
 145 150 155 160

Arg Leu Ile Asn Ile Ser His Leu Ile Arg Lys Ile Leu Val Ser Val
 165 170 175

Met Thr Phe Pro Tyr Phe Thr Gly Leu Ser Met Leu Ser Ala Ile Ser
 180 185 190

Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile Trp Tyr
 195 200 205

<210> 41

<211> 319

<212> DNA

<213> Homo sapiens

<400> 41

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ctgtacaatg tcttcctctg gctaggctat ttcaactctg ctttcaatcc cattttatat 180

ggcatgcttt atccttggtt tcgcaaggca ttgaggatga ttgtcacagg catgatcttc 240

caccctgact cttccaccct aagcctgttt tctgcccattg cttaggctgt gttcatcatt 300

caataggact cttttctgg 319

<210> 42

<211> 103

<212> PRT

<213> Homo sapiens

<400> 42

Thr Glu Ser Lys Ala Thr Arg Thr Leu Gly Ile Val Met Gly Val Phe
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Val Leu Cys Trp Leu Pro Phe Phe Val Leu Thr Ile Thr Asp Pro Phe
 20 25 30

Ile Asn Phe Thr Thr Leu Glu Asp Leu Tyr Asn Val Phe Leu Trp Leu
 35 40 45

Gly Tyr Phe Asn Ser Ala Phe Asn Pro Ile Leu Tyr Gly Met Leu Tyr
 50 55 60

Pro Trp Phe Arg Lys Ala Leu Arg Met Ile Val Thr Gly Met Ile Phe
 65 70 75 80

His Pro Asp Ser Ser Thr Leu Ser Leu Phe Ser Ala His Ala Ala Val
 85 90 95

Phe Ile Ile Gln Asp Ser Phe
 100

<210> 43

<211> 515
 <212> DNA
 <213> Homo sapiens

<400> 43
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 gaatcagcaa atcttattca cttatcacta aatctaaaat atgtcaaaat acatgaagac 120
 aacaaatgct ttagaacaac tgttgaatgt attgtcctac aacttggcat atgatcatgc 180
 ttgcctctct atgtccaagt gtttattttt gcagttgacc ttaatttcaa gttagtgttg 240
 aggtctctac agtaatgttt ttaatctgtc tctacttctt cagaaaataa attagtgtgt 300
 gacgaatcag tccttaagac cttgccgctt acaataagtt ttattgcctt cccaaacct 360
 tggtaaaaga aagcataaat caaggggttc atagctgaat tataataaac acaccaaact 420
 aaaatctcat aaacataagg aggagttata aaattcatat aagcatcaat cactgcatca 480
 acgaggtatg gtagccaaga gacaagaaat gctgc 515

<210> 44
 <211> 148
 <212> PRT
 <213> Homo sapiens

<400> 44
 Leu His Gln Arg Gly Met Val Ala Lys Arg Gln Glu Met Leu Ala Ala
 1 5 10 15
 Phe Leu Val Ser Trp Leu Pro Tyr Leu Val Asp Ala Val Ile Asp Ala
 20 25 30
 Tyr Met Asn Phe Ile Thr Pro Pro Tyr Val Tyr Glu Ile Leu Val Trp
 35 40 45
 Cys Val Tyr Tyr Asn Ser Ala Met Asn Pro Leu Ile Tyr Ala Phe Phe
 50 55 60
 Tyr Gln Trp Phe Gly Lys Ala Ile Lys Leu Ile Val Ser Gly Lys Val
 65 70 75 80
 Leu Arg Thr Asp Ser Ser Thr Thr Asn Leu Phe Ser Glu Glu Val Glu
 85 90 95
 Thr Asp Lys His Tyr Cys Arg Asp Leu Lys Thr Asn Leu Lys Leu Arg
 100 105 110
 Ser Thr Ala Lys Ile Asn Thr Trp Thr Arg Gly Lys His Asp His Met
 115 120 125
 Pro Ser Cys Arg Thr Ile His Ser Thr Val Val Leu Lys His Leu Leu
 130 135 140
 Ser Ser Cys Ile
 145

<210> 45
 <211> 726
 <212> DNA
 <213> Homo sapiens

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<400> 45
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gcgttttgaa acttactggt catgattgct atccttcact tctaacaact gcacacacct    120
acaaactttc tgattgcgtc gctggcctgt gctgacttct tgggtgggagt cactgtgatg    180
cccttcagca cagtgaggtc tgtggagagc tgttggtact ttggggacag ttactgtaaa    240
ttccatacat gttttgacac atctttctgt tttgcttctt tatttcattt atgctgtatc    300
tctgttgata gatacattgc tgttactgat cctctgacct atccaaccaa gtttactgtg    360
tcagtttcag ggatatgcat tgttctttcc tggttctttt ctgtcacata cagcttttcg    420
atcttttaca cgggagccaa cgaagaagga attgaggaat tagtagttgc tctaacctgt    480
gtaggaggct gccaggctcc actgaatcaa aactgggtcc tactttgttt tcttctattc    540
tttatacca atgtcgccat ggtgtttata tacagtaaga tatttttggg ggccaagcat    600
caggctagga agatagaaag tacagccagc caagctcagt ccttctcaga gagttacaag    660
gaaagagtag caaaaagaga gagaaaggct gccaaaacct tgggaattgc tatggcagca    720
tttctt                                     726

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<210> 46
<211> 241
<212> PRT
<213> Homo sapiens

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<400> 46

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Leu Glu Arg Gly Pro Arg Ser Ile Leu Tyr Ala Val Leu Gly Phe Gly
1          5          10          15
Ala Val Leu Ala Ala Phe Gly Asn Leu Leu Val Met Ile Ala Ile Leu
20          25          30
His Phe Gln Leu His Thr Pro Thr Asn Phe Leu Ile Ala Ser Leu Ala
35          40          45
Cys Ala Asp Phe Leu Val Gly Val Thr Val Met Pro Phe Ser Thr Val
50          55          60
Arg Ser Val Glu Ser Cys Trp Tyr Phe Gly Asp Ser Tyr Cys Lys Phe
65          70          75          80
His Thr Cys Phe Asp Thr Ser Phe Cys Phe Ala Ser Leu Phe His Leu
85          90          95
Cys Cys Ile Ser Val Asp Arg Tyr Ile Ala Val Thr Asp Pro Leu Thr
100         105         110
Tyr Pro Thr Lys Phe Thr Val Ser Val Ser Gly Ile Cys Ile Val Leu
115         120         125
Ser Trp Phe Phe Ser Val Thr Tyr Ser Phe Ser Ile Phe Tyr Thr Gly
130         135         140
Ala Asn Glu Glu Gly Ile Glu Glu Leu Val Val Ala Leu Thr Cys Val
145         150         155         160

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Gly Gly Cys Gln Ala Pro Leu Asn Gln Asn Trp Val Leu Leu Cys Phe
165 170 175
Leu Leu Phe Phe Ile Pro Asn Val Ala Met Val Phe Ile Tyr Ser Lys
180 185 190
Ile Phe Leu Val Ala Lys His Gln Ala Arg Lys Ile Glu Ser Thr Ala
195 200 205
Ser Gln Ala Gln Ser Phe Ser Glu Ser Tyr Lys Glu Arg Val Ala Lys
210 215 220
Arg Glu Arg Lys Ala Ala Lys Thr Leu Gly Ile Ala Met Ala Ala Phe
225 230 235 240
Leu

<210> 47
<211> 660
<212> DNA
<213> Homo sapiens

<400> 47
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ctgctagctg ccttagaacg ggcacttagc gaggagccag atagtgcctg aatcccagct 180
cccaggcaga tgagtccttt ataacatgac ccaatttcct actccatttt cccaccactc 240
aatcctcttc ccaaacagct ctaccataat ccaacatcca acagaattta agagaataaa 300
ccacaacttt taagttagct ctatgtgcta ggtcatgttt tagaatacaa ccttaagtgc 360
ctggaagatg gaggcaagaa acaaacaagg tctcattctt tagaggaaga cagttcacca 420
agactcaaac agaaaaaag atagttatct tgtgacaaaa caagtcataa aattgggtca 480
ggacctgcag caatgacttt atgctagaat ccagagcact agcaggaaac tgcttaaatt 540
ttacttaatc aaagtcaagt ttggacatac atgtcaggta aaacctagca gagatgagct 600
accttgattt taaaacttca agggatagct caatgtcatc aagatccttt tgatgacttg 660

<210> 48
<211> 211
<212> PRT
<213> Homo sapiens

<400> 48
Asn Gln Val Ala Leu Leu Leu Arg Pro Leu Ala Leu Ser Met Ala Phe
1 5 10 15
Ile Asn Ser Cys Leu Asn Pro Val Leu Tyr Val Phe Ile Gly His Asp
20 25 30
Phe Trp Glu His Leu Leu His Ser Leu Leu Ala Ala Leu Glu Arg Ala
35 40 45
Leu Ser Glu Glu Pro Asp Ser Ala Ile Pro Ala Pro Arg Gln Met Ser

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50

55

60

Pro Leu His Asp Pro Ile Ser Tyr Ser Ile Phe Pro Pro Leu Asn Pro
65 70 75 80

Leu Pro Lys Gln Leu Tyr His Asn Pro Thr Ser Asn Arg Ile Glu Asn
85 90 95

Lys Pro Gln Leu Leu Ser Glu Leu Tyr Val Leu Gly His Val Leu Glu
100 105 110

Tyr Asn Leu Lys Cys Leu Glu Asp Gly Gly Lys Lys Gln Thr Arg Ser
115 120 125

His Ser Leu Glu Glu Asp Ser Ser Pro Arg Leu Lys Gln Lys Lys Arg
130 135 140

Leu Ser Cys Asp Lys Thr Ser His Lys Ile Gly Ser Gly Pro Ala Ala
145 150 155 160

Met Thr Leu Cys Asn Pro Glu His Gln Glu Thr Ala Ile Leu Leu Asn
165 170 175

Gln Ser Gln Val Trp Thr Tyr Met Ser Gly Lys Thr Gln Arg Ala Thr
180 185 190

Leu Ile Leu Lys Leu Gln Gly Ile Ala Gln Cys His Gln Asp Pro Phe
195 200 205

Asp Asp Leu
210

<210> 49

<211> 465

<212> DNA

<213> Homo sapiens

<400> 49

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cccccaacaa cttcgtgctc ctggcgcaca tcgtgagccg cctgttctac ggcaagagct 180

actaccacgt gtacaagctc acgctgtgtc tcagctgcct caacaactgt ctggaccctg 240

ttgtttatta ctttgcgtcc cgggaattcc agctgcgcct gcgggaatat ttgggctgcc 300

gccgggtgcc cagagacacc ctggacacgc gccgcgagag cctcttctcc gccaggacca 360

cgtccgtgcg ctccgaggcc ggtgcgcacc ctgaagggat ggaggagacc accaggcccg 420

gcctccagag gcaggagagt gtgttctgag tcccgggggc gcagc 465

<210> 50

<211> 160

<212> PRT

<213> Homo sapiens

<400> 50

Leu Phe Thr Ala Thr Ile Leu Lys Leu Leu Arg Thr Glu Glu Ala His
1 5 10 15

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Gly Arg Glu Gln Arg Arg Arg Ala Val Gly Leu Ala Ala Val Val Leu
 20 25 30
 Leu Ala Phe Val Thr Cys Phe Ala Pro Asn Asn Phe Val Leu Leu Ala
 35 40 45
 His Ile Val Ser Arg Leu Phe Tyr Gly Lys Ser Tyr Tyr His Val Tyr
 50 55 60
 Lys Leu Thr Leu Cys Leu Ser Cys Leu Asn Asn Cys Leu Asp Pro Phe
 65 70 75 80
 Val Tyr Tyr Phe Ala Ser Arg Glu Phe Gln Leu Arg Leu Arg Glu Tyr
 85 90 95
 Leu Gly Cys Arg Arg Val Pro Arg Asp Thr Leu Asp Thr Arg Arg Glu
 100 105 110
 Ser Leu Phe Ser Ala Arg Thr Thr Ser Val Arg Ser Glu Ala Gly Ala
 115 120 125
 His Pro Glu Gly Met Glu Gly Ala Thr Arg Pro Gly Leu Gln Arg Gln
 130 135 140
 Glu Ser Val Phe Val Pro Gly Ala Gln Ala Ala Pro Pro Gly Leu Arg
 145 150 155 160

<210> 51
 <211> 603
 <212> DNA
 <213> Homo sapiens

<400> 51
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 ccggaacca cagggcccg tgggccatga gaggtcctg gacttgaacc tcaggacact 180
 cccactctgg ctgccggcag ggatggaagc tggatgagca ggcaggagct ggcagtgggg 240
 gtggagagcc ataggtatt ggggtggaca ggcttgggtg cctcatggga gctcccatg 300
 ggagctgtgg ccccttgggg cctcttattt ctacccccag gctttcccg gagaggttca 360
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 agc 603

<210> 52
 <211> 198
 <212> PRT
 <213> Homo sapiens

<400> 52

Glu Thr Tyr Ser Ala Leu Tyr Pro Thr Phe Asn Ser Leu Cys Tyr Ser
 1 5 10 15

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Pro Ala Ser Phe Ser Gly Leu Ile Phe Pro Ile Ile Leu Pro His Ile
20 25 30

Asp Gln Gly Met Arg Leu Ala Gly Ser Gly Thr His Arg Ala Pro Trp
35 40 45

Ala Met Arg Gly Ser Trp Thr Thr Ser Gly His Ser His Ser Gly Cys
50 55 60

Arg Gln Gly Trp Lys Leu Asp Glu Gln Ala Gly Ala Gly Ser Gly Gly
65 70 75 80

Gly Glu Pro Ala Ile Gly Val Asp Arg Leu Gly Cys Leu Met Gly Ala
85 90 95

Pro His Gly Ser Cys Gly Pro Leu Gly Pro Leu Ile Ser His Pro Arg
100 105 110

Leu Ser Arg Glu Arg Phe Lys Ser Glu Asp Ala Pro Lys Ile His Val
115 120 125

Ala Leu Gly Gly Ser Leu Phe Leu Leu Asn Leu Ala Phe Leu Val Asn
130 135 140

Val Gly Ser Gly Ser Lys Gly Ser Asp Ala Ala Cys Trp Ala Arg Gly
145 150 155 160

Ala Val Phe His Tyr Phe Leu Leu Cys Ala Phe Thr Trp Met Gly Leu
165 170 175

Glu Ala Phe His Leu Tyr Leu Leu Ala Val Arg Val Phe Asn Thr Tyr
180 185 190

Phe Gly His Tyr Phe Leu
195

<210> 53

<211> 335

<212> DNA

<213> Homo sapiens

<400> 53

aattggtcgg agagtgcagc tgcttgaaat ggaggattga aatcatcacc aggaggtttc 60

caaacacagc cagcacagcc ccaaagccaa aactatgtga cagaatcacc cgggatcccc 120

gcgagaaggg gattttcaca caggacccat tcacgttcgc gtagcacagc tgcacagcca 180

ccagcagggg tgaattgctg ctcataacgc tggatattac atatggagaa attttgtcct 240

tggtgattat cacaaaaaat acaggattgt tcctgatttt cattgctcct gcggaaaaaa 300

acacatatcc accaggatgc cagaggaaat gatca 335

<210> 54

<211> 111

<212> PRT

<213> Homo sapiens

<400> 54

Asp His Phe Leu Trp His Pro Gly Glu Tyr Val Phe Phe Ser Ala Gly
1 5 10 15

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Ala Met Lys Ile Arg Asn Asn Pro Val Phe Phe Val Ile Ile Asn Lys
 20 25 30
 Asp Lys Ile Ser Pro Tyr Val Asn Thr Ser Val Met Ser Ser Asn Ser
 35 40 45
 Ser Leu Leu Val Ala Val Gln Leu Cys Tyr Ala Asn Val Asn Gly Ser
 50 55 60
 Cys Val Lys Ile Pro Phe Ser Pro Gly Ser Arg Val Ile Leu Tyr Ile
 65 70 75 80
 Val Phe Gly Phe Gly Ala Val Leu Ala Val Phe Gly Asn Leu Leu Val
 85 90 95
 Met Ile Ser Ile Leu His Phe Lys Gln Leu His Ser Pro Thr Asn
 100 105 110

<210> 55
 <211> 586
 <212> DNA
 <213> Homo sapiens

<400> 55
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 ctattcattc atagtcttac ttgattttta aaaactcatt tcgcttggtta attttaaagg 120
 tatcctgaac ttcgtctatc caactgctta tatatgttca gaaaacaaat tcatgggtgc 180
 tgaactgttc tttaaaacct gaccagttac aataactttt attgctttcc taaaccatgg 240
 gtaaaataaa gcataaatca aaggattcat ggctgagtta taataagcac accaacagca 300
 tcataaatac aggaggggt tataaagccc ataaaggcat caattaatga atcaatgcta 360
 tatggtaacc atgaaatcat aaatgctacc actgtgaccc ccagggtttt agctgctttt 420
 ctctctctcc tggccactct ggctttgtaa ctctctgagg atgattctgt cttgctacca 480
 gtattttcta tctttttcgc ctgtcgtcta gccacaagaa atatgttacc atacagaatt 540
 atcataataa aggtaggat aaagaaggat agaaaatctg tcaaca 586

<210> 56
 <211> 190
 <212> PRT
 <213> Homo sapiens

<400> 56
 Leu Thr Asp Phe Leu Ser Phe Phe Ile Pro Thr Phe Ile Met Ile Ile
 1 5 10 15
 Leu Tyr Gly Asn Ile Phe Leu Val Ala Arg Arg Gln Ala Lys Lys Ile
 20 25 30
 Glu Asn Thr Gly Ser Lys Thr Glu Ser Ser Ser Glu Ser Tyr Lys Ala
 35 40 45
 Arg Val Ala Arg Arg Glu Arg Lys Ala Ala Lys Thr Leu Gly Val Thr
 50 55 60

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Val Val Ala Phe Met Ile Ser Trp Leu Pro Tyr Ser Ile Asp Ser Leu
65 70 75 80

Ile Asp Ala Phe Met Gly Phe Ile Thr Pro Ala Cys Ile Tyr Glu Ile
85 90 95

Cys Cys Trp Cys Ala Tyr Tyr Asn Ser Ala Met Asn Pro Leu Ile Tyr
100 105 110

Ala Leu Phe Tyr Pro Trp Phe Arg Lys Ala Ile Lys Val Ile Val Thr
115 120 125

Gly Gln Val Leu Lys Asn Ser Ser Ala Thr Met Asn Leu Phe Ser Glu
130 135 140

His Ile Ala Val Gly Thr Lys Phe Arg Ile Pro Leu Lys Leu Pro Ser
145 150 155 160

Glu Met Ser Phe Lys Ser Ser Lys Thr Met Asn Glu Gln Ile Asn Cys
165 170 175

Ser Ser Asn Lys Gln Ile Asn Val Phe Gln Ser Cys Asp Val
180 185 190

<210> 57
<211> 976
<212> DNA
<213> Homo sapiens

<400> 57
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tggtaggaaa cgggtttgtg ctctggctcc tgggcttcg catgcgcagg aacgccttct 120
ctgtctacgt cctcagcctg gccggggccg acttcctctt cctctgcttc cagattataa 180
attgcctggt gtacctcagt aacttcttct gttccatctc catcaatttc cctagcttct 240
tcaccactgt gatgacctgt gcctaccttg caggcctgag catgctgagc accgtcagca 300
ccgagcgctg cctgtccgtc ctgtggccca tctggatatc ctgccgccgc ccagacacc 360
tgtcagcggc cgtgtgtgtc ctgctctggg ccctgtccct actgctgagc atcttggaag 420
ggaagtctct tggcttctta ttagtgatg gtgactctgg ttggtgtcag acatttgatt 480
tcatactgc agcgtggctg atttttttat tcatggttct ctgtgggtcc agtctggccc 540
tgctggtcag gatcctctgt ggtccagggt gtctgccact gaccaggctg tacctgacca 600
tctgtctcac agtgctggtg tccctcctct gcggcctgcc ctttggcatt cagtggttcc 660
taatattatg gatctggaag gattctgatg tcttattttg tcatattcat ccagtttcag 720
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ttaggaagca gtggcggstg cagcaccgca tcctcaagct ggctctccag agggctctgc 840
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gaggcaactt tgcccc 976

<210> 58
 <211> 324
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (266)..(266)
 <223> Xaa is Unknown

<400> 58

Cys Gly Lys Glu Thr Leu Ile Pro Val Phe Leu Ile Leu Phe Ile Ala
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Leu Val Gly Leu Val Gly Asn Gly Phe Val Leu Trp Leu Leu Gly Phe
 20 25 30

Arg Met Arg Arg Asn Ala Phe Ser Val Tyr Val Leu Ser Leu Ala Gly
 35 40 45

Ala Asp Phe Leu Phe Leu Cys Phe Gln Ile Ile Asn Cys Leu Val Tyr
 50 55 60

Leu Ser Asn Phe Phe Cys Ser Ile Ser Ile Asn Phe Pro Ser Phe Phe
 65 70 75 80

Thr Thr Val Met Thr Cys Ala Tyr Leu Ala Gly Leu Ser Met Leu Ser
 85 90 95

Thr Val Ser Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile Trp Tyr
 100 105 110

Arg Cys Arg Arg Pro Arg His Leu Ser Ala Val Val Cys Val Leu Leu
 115 120 125

Trp Ala Leu Ser Leu Leu Leu Ser Ile Leu Glu Gly Lys Phe Cys Gly
 130 135 140

Phe Leu Phe Ser Asp Gly Asp Ser Gly Trp Cys Gln Thr Phe Asp Phe
 145 150 155 160

Ile Thr Ala Ala Trp Leu Ile Phe Leu Phe Met Val Leu Cys Gly Ser
 165 170 175

Ser Leu Ala Leu Leu Val Arg Ile Leu Cys Gly Ser Arg Gly Leu Pro
 180 185 190

Leu Thr Arg Leu Tyr Leu Thr Ile Leu Leu Thr Val Leu Val Ser Leu
 195 200 205

Leu Cys Gly Leu Pro Phe Gly Ile Gln Trp Phe Leu Ile Leu Trp Ile
 210 215 220

Trp Lys Asp Ser Asp Val Leu Phe Cys His Ile His Pro Val Ser Val
 225 230 235 240

Val Leu Ser Ser Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe
 245 250 255

Val Gly Ser Phe Arg Lys Gln Trp Arg Xaa Gln His Pro Ile Leu Lys
 260 265 270

Leu Ala Leu Gln Arg Ala Leu Gln Asp Ile Ala Glu Val Asp His Ser

275

280

285

Glu Gly Cys Phe Arg Gln Gly Thr Arg Arg Phe Lys Glu Ala Phe Trp
 290 295 300

Cys Arg Asp Gly Pro Leu Tyr Phe His His Ile Tyr Val Ala Leu Arg
 305 310 315 320

Gly Asn Phe Ala

<210> 59

<211> 578

<212> DNA

<213> Homo sapiens

<400> 59

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 tggatctgat tctcaatgga acaactgatt gaaagcaggc tgagattcga tcctgaatga 180
 ccctcaagat atggaagggt aaaaaacata cgtaaaatgc aaggagtagc agaatgggta 240
 gccttcgtgc tttctgctta aggcagctgt cagtttgcag tccatgggtc aaagtgtgga 300
 taatcgtggt atagcaaagt gtcactatca ccaaggggag gcagaaagta cttgcagtca 360
 aaatcagggt gtaccactta atagtattga gttcatccga actggtgagg tcgagacagg 420
 ctgatctggt ggtcctggtg gttgatgtga tcaagaagggt catcggaatg acagctacca 480
 gtgaaatgat ccacaccaca gcacaggcta caactgcaca tcgagttttg tgaatggaaa 540
 agcagctcat tgggtgaatg atcacacagt agcggaag 578

<210> 60

<211> 192

<212> PRT

<213> Homo sapiens

<400> 60

Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile His
 1 5 10 15

Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile Ser
 20 25 30

Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn Arg
 35 40 45

Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu Asn
 50 55 60

Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Ser Thr Phe Cys Leu
 65 70 75 80

Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr Leu
 85 90 95

Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg Arg
 100 105 110

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Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro Phe
 115 120 125
 His Ile Leu Arg Val Ile Gln Asp Arg Ile Ser Ala Cys Phe Gln Ser
 130 135 140
 Val Val Pro Leu Arg Ile Arg Ser Met Lys Leu Thr Ser Phe Leu Asp
 145 150 155 160
 His Tyr Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val Val
 165 170 175
 Val Ser Asp Asn Phe Gln Gln Ala Val Cys Ser Thr Val Arg Cys Lys
 180 185 190

<210> 61
 <211> 872
 <212> DNA
 <213> Homo sapiens

<400> 61
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 tctttctcat ccctccatt tctgtgtcaa tctcaatcca tttatatcgg tggccacttt 180
 tctatctctt tgttctatct ctctctctct ctctttccca ctttgtctct gcacgcctgt 240
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 tgcaactcagc tgcaagattg tggcctttat ggccgtgctc ttttgcttcc atgcggcctt 780
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 caagcgcagtg acactctgga catgcgcggc tg 872

<210> 62
 <211> 143
 <212> PRT
 <213> Homo sapiens

<400> 62

Met Ala Asn Thr Thr Gly Glu Pro Glu Glu Val Ser Gly Ala Leu Ser
 1 5 10 15
 Pro Pro Ser Ala Ser Ala Tyr Val Lys Leu Val Leu Leu Gly Leu Ile
 20 25 30

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Met Cys Val Ser Leu Ala Gly Asn Ala Ile Leu Ser Leu Leu Val Leu
 35 40 45
 Lys Glu Arg Ala Leu His Lys Ala Pro Tyr Tyr Phe Leu Leu Asp Leu
 50 55 60
 Cys Leu Ala Asp Gly Ile Arg Ser Ala Val Cys Phe Pro Phe Val Leu
 65 70 75 80
 Ala Ser Val Arg His Gly Ser Ser Trp Thr Phe Ser Ala Leu Ser Cys
 85 90 95
 Lys Ile Val Ala Phe Met Ala Val Leu Phe Cys Phe His Ala Ala Phe
 100 105 110
 Met Leu Phe Cys Ile Ser Val Thr Arg Tyr Met Ala Ile Ala His His
 115 120 125
 Arg Phe Tyr Ala Lys Arg Met Thr Leu Trp Thr Cys Ala Ala Glu
 130 135 140

<210> 63
 <211> 962
 <212> DNA
 <213> Homo sapiens

<400> 63
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 tgatttactc ttttattttt cctcctaggt ttctgggata agtatgtgca aataaaaaat 180
 aaacatgaga aggaactgta acctgattat ggatttggga aaaagataaa tcaacacaca 240
 aagggaaaag taaactgatt gacagccctc aggaatgatg cccttttgcc acaatataat 300
 taatatttcc tgtgtgaaaa acaactggtc aaatgatgtc cgtgcttccc tgtacagttt 360
 aatggtgctc ataattctga ccactctcgt tggcaatctg atagttattg tttctatatc 420
 acacttcaaa caacttcata cccaacaaa ttggctcatt cattccatgg ccaactgtgga 480
 ctttctcttg ggggtgtctg tcatgcctta cagtatggtg agatctgctg agcactgttg 540
 gtatttttga gaagtcttct gtaaaattca cacaagcacc gacattatgc tgagctcagc 600
 ctccattttc catttgtctt tcatctccat tgaccgctac tatgctgtgt gtgatccact 660
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 tgtccctgct gtttttgcac ttggaatgat ctttctggag ctaaacttca aaggcgctga 780
 agagatatat tacaacatg ttactgcag aggaggttgc tctgtcttct ttagcaaat 840
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 ga 962

<210> 64
 <211> 238

<212> PRT
 <213> Homo sapiens

<400> 64

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 20 25 30
 Ala Ser Leu Tyr Ser Leu Met Val Leu Ile Ile Leu Thr Thr Leu Val
 35 40 45
 Gly Asn Leu Ile Val Ile Val Ser Ile Ser His Phe Lys Gln Leu His
 50 55 60
 Thr Pro Thr Asn Trp Leu Ile His Ser Met Ala Thr Val Asp Phe Leu
 65 70 75 80
 Leu Gly Cys Leu Val Met Pro Tyr Ser Met Val Arg Ser Ala Glu His
 85 90 95
 Cys Trp Tyr Phe Gly Glu Val Phe Cys Lys Ile His Thr Ser Thr Asp
 100 105 110
 Ile Met Leu Ser Ser Ala Ser Ile Phe His Leu Ser Phe Ile Ser Ile
 115 120 125
 Asp Arg Tyr Tyr Ala Val Cys Asp Pro Leu Arg Tyr Lys Ala Lys Met
 130 135 140
 Asn Ile Leu Val Ile Cys Val Met Ile Phe Ile Ser Trp Ser Val Pro
 145 150 155 160
 Ala Val Phe Ala Phe Gly Met Ile Phe Leu Glu Leu Asn Phe Lys Gly
 165 170 175
 Ala Glu Glu Ile Tyr Tyr Lys His Val His Cys Arg Gly Gly Cys Ser
 180 185 190
 Val Phe Phe Ser Lys Ile Ser Gly Val Leu Thr Phe Met Thr Ser Phe
 195 200 205
 Tyr Ile Pro Gly Ser Ile Met Leu Cys Val Tyr Tyr Arg Ile Tyr Leu
 210 215 220
 Ile Ala Lys Glu Gln Ala Arg Leu Ile Ser Asp Ala Asn Gln
 225 230 235

<210> 65
 <211> 1018
 <212> DNA
 <213> Homo sapiens

<400> 65

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 ctgcttttta ttattcctgg ttggattgca ccactactca gtttctatatt tataatactg 180
 attataaaaac atgggaggga aataactttg tattggtttt tatggataat ttattatgtg 240
 tcctagactc tggccttgtc aaaagaagga cgtaagaagg cacgatgtat tatacttggg 300

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aatgatagaa gagactgacc tggatatttc acccggaaga gggaaaggat ttttaactaca    360
aatacaggaa tccagcagat ggcatcagag aacactataa aaaagaaacg atttgcaaca    420
gccacctctc ttccaaaaca attccttact tctgtggtct gcaaggcggg tttttgaatg    480
gaacagaaca tagtaatata ggaaaacaca atgatgagaa aagccagcaa gttcacacct    540
gttggggaaa agcacacttt taacatctca ggcgtaaaag tcaacagtaa aattactgtg    600
gtacagggtg agtatccctt acccaaatg tttgaaacca gaaatgtttt ggatttcgga    660
tttcggaata tttacacatt cataatgata tatcttgga atggttccca agtctaaaca    720
caaaatztat ttatgtttca tatacacctt atacacatag tctgaaagta attttgtaca    780
atattttaaa taattttggg catgaaacaa agtttgcata cattgaacca tcagacagca    840
aaagcttcag gtgtggaatt ttccacttgt ggcatcatgt tgatgctcaa aaagttccat    900
attttagagc atttcaaatt ttggattttc aaattacaaa tgcttaacct gtacttagat    960
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<210> 66
<211> 327
<212> PRT
<213> Homo sapiens

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<400> 66

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Tyr Ile Lys Glu Cys Phe Leu Lys Val Pro Val Glu Glu Ala Leu Tyr
1           5           10           15
Leu Thr Ser Lys Tyr Arg Leu Ser Ile Cys Asn Leu Lys Ile Gln Asn
20          25          30
Leu Lys Cys Ser Lys Ile Trp Asn Phe Leu Ser Ile Asn Met Met Pro
35          40          45
Gln Val Glu Asn Ser Thr Pro Glu Ala Phe Ala Val Trp Phe Asn Val
50          55          60
Cys Lys Leu Cys Phe Met Pro Lys Ile Ile Asn Ile Val Gln Asn Tyr
65          70          75          80
Phe Gln Thr Met Cys Ile Arg Cys Ile Asn Ile Asn Lys Phe Cys Val
85          90          95
Thr Trp Glu Pro Phe Pro Arg Tyr Ile Ile Met Asn Val Ile Phe Arg
100         105         110
Asn Pro Lys Ser Lys Thr Phe Leu Val Ser Asn Ile Leu Gly Lys Gly
115         120         125
Tyr Ser Thr Cys Thr Thr Val Ile Leu Leu Leu Thr Phe Thr Pro Glu
130         135         140
Met Leu Lys Val Cys Phe Ser Pro Thr Gly Val Asn Leu Leu Ala Phe
145         150         155         160
Leu Ile Ile Val Phe Ser Tyr Ile Thr Met Phe Cys Ser Ile Gln Lys
165         170         175

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Thr Ala Leu Gln Thr Thr Glu Val Arg Asn Cys Phe Gly Arg Glu Val
180 185 190

Ala Val Ala Asn Arg Phe Phe Phe Ile Val Phe Ser Asp Ala Ile Cys
195 200 205

Trp Ile Pro Val Phe Val Val Lys Ile Leu Ser Leu Phe Arg Val Glu
210 215 220

Ile Pro Gly Gln Ser Leu Leu Ser Phe Pro Ser Ile Ile His Arg Ala
225 230 235 240

Phe Leu Arg Pro Ser Phe Asp Lys Ala Arg Val Asp Thr Ile Ile His
245 250 255

Lys Asn Gln Tyr Lys Val Ile Ser Leu Pro Cys Phe Ile Ile Ser Ile
260 265 270

Ile Lys Lys Leu Ser Ser Gly Ala Ile Gln Pro Gly Ile Ile Lys Ser
275 280 285

Arg Ser Tyr Arg Glu Thr Lys Ser Glu Tyr Leu Ala Ser Ile Ala Arg
290 295 300

His Trp Phe Phe Thr Arg Ser Met His Lys Thr Ile Lys Ile Tyr Met
305 310 315 320

Pro Arg Phe His Pro Gly Leu
325

<210> 67

<211> 1251

<212> DNA

<213> Homo sapiens

<400> 67

actaccatgg aagctgacct gggtgccact ggccacaggc cccgcacaga gcttgatgat 60

gaggactcct accccaagg tggtgggac acggtcttcc tggtggcct gctgctcct 120

gggctgccag ccaatgggtt gatggcgtg ctggccggct cccaggcccg gcatggagct 180

ggcacgcgtc tggcgtgct cctgctcagc ctggccctct ctgacttctt gttcctggca 240

gcagcggcct tccagatcct agagatccg catgggggac actggccgct ggggacagct 300

gcctgccgct tctactactt cctatggggc gtgtcctact cctccggcct cttcctgctg 360

gccgccctca gcctcgaccg ctgcctgctg gcgtgtgcc cacactggta ccctgggcac 420

cgccagtc gcctgccct ctgggtctgc gccggtgtct ggggtgctggc cacactcttc 480

agcgtgccct ggctggctct ccccgaggct gccgtctggt ggtacgacct ggtcatctgc 540

ctggacttct gggacagcga ggagctgtcg ctgaggatgc tggaggtcct ggggggcttc 600

ctgcctttcc tctgtgctg cgtctgccac gtgtcacc aggccacagc ctgtcgacc 660

tgccaccgcc aacagcagcc cgcagcctgc cggggcttcg cccgtgtggc caggaccatt 720

ctgtcagcct atgtggtcct gaggtgccc taccagctgg cccagctgct ctacctggcc 780

ttcctgtggg acgtctactc tggctacctg ctctgggagg ccctggtcta ctccgactac 840

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ggcagcttca cgccactga gccacagacc cagctagatt ctgaggggtcc aactctgcca  1020
gagccgatgg cagaggccca gtcacagatg gatcctgtgg cccagcctca ggtgaacccc  1080
acactccagc cacgatcgga tcccacagct cagccacagc tgaaccctac ggcccagcca  1140
cagtcggatc ccacagccca gccacagctg aacctcatgg cccagccaca gtcagattct  1200
gtggcccagc cacaggcaga cactaacgtc cagaccctg cacctgctgc c           1251

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<210> 68
<211> 417
<212> PRT
<213> Homo sapiens

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<400> 68
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Thr Thr Met Glu Ala Asp Leu Gly Ala Thr Gly His Arg Pro Arg Thr
1      5      10      15
Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly Gly Trp Asp Thr Val
20      25      30
Phe Leu Val Ala Leu Leu Leu Leu Gly Leu Pro Ala Asn Gly Leu Met
35      40      45
Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly Ala Gly Thr Arg Leu
50      55      60
Ala Leu Leu Leu Leu Ser Leu Ala Leu Ser Asp Phe Leu Phe Leu Ala
65      70      75      80
Ala Ala Ala Phe Gln Ile Leu Glu Ile Arg His Gly Gly His Trp Pro
85      90      95
Leu Gly Thr Ala Ala Cys Arg Phe Tyr Tyr Phe Leu Trp Gly Val Ser
100     105     110
Tyr Ser Ser Gly Leu Phe Leu Leu Ala Ala Leu Ser Leu Asp Arg Cys
115     120     125
Leu Leu Ala Leu Cys Pro His Trp Tyr Pro Gly His Arg Pro Val Arg
130     135     140
Leu Pro Leu Trp Val Cys Ala Gly Val Trp Val Leu Ala Thr Leu Phe
145     150     155     160
Ser Val Pro Trp Leu Val Phe Pro Glu Ala Ala Val Trp Trp Tyr Asp
165     170     175
Leu Val Ile Cys Leu Asp Phe Trp Asp Ser Glu Glu Leu Ser Leu Arg
180     185     190
Met Leu Glu Val Leu Gly Gly Phe Leu Pro Phe Leu Leu Leu Leu Val
195     200     205
Cys His Val Leu Thr Gln Ala Thr Ala Cys Arg Thr Cys His Arg Gln
210     215     220
Gln Gln Pro Ala Ala Cys Arg Gly Phe Ala Arg Val Ala Arg Thr Ile

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<210> 70
 <211> 213
 <212> PRT
 <213> Homo sapiens

<400> 70

Tyr Arg Pro Glu His Ala Gly Leu His Gln His Gln Ala Leu Pro Val
 1 5 10 15

His Pro Val Ala His Leu Val Pro Leu Pro Pro Pro His Thr Pro Val
 20 25 30

Ser Ser Arg Val Ser Cys Ser Gly Pro Cys Pro Cys Cys Arg Ala Ser
 35 40 45

Trp Asn Gly Cys Ser Val Ala Ser Cys Leu Val Val Leu Ile Leu Phe
 50 55 60

Gly Val Lys His Gln Ile Ser Ser Gln Ser His Gly Phe Phe Tyr Val
 65 70 75 80

Trp Phe Ser Ala Gly Pro Ala Arg Phe Cys Trp Ser Gly Ser Phe Val
 85 90 95

Asp Pro Gly Arg Cys Pro Pro Gly Cys Thr Pro Ser Cys Ser Glu Cys
 100 105 110

Trp Ser Ser Ser Ser Val Thr Cys Pro Leu Ala Phe Ser Asp Ser Tyr
 115 120 125

Phe Ser Gly Ser Thr Trp Ile Cys His Val Arg Leu Val Ser Ile Phe
 130 135 140

Leu Ser Thr Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe Met
 145 150 155 160

Gly Ser Phe Arg Gln Leu Gln Asn Arg Lys Thr Leu Leu Val Leu Gln
 165 170 175

Arg Ala Leu Gln Asp Thr Pro Glu Val Glu Glu Gly Arg Trp Arg Leu
 180 185 190

Ser Glu Glu Thr Leu Glu Leu Ser Ser Arg Leu Gly Pro Gly Arg Ala
 195 200 205

Ser Ala Leu Ser Val
 210

<210> 71
 <211> 559
 <212> DNA
 <213> Homo sapiens

<400> 71

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 cccacacatg gtgcaacaca gcagagccag cagcaccgct gccaccagcc acagcgtccg 180
 gcacaagtgg cggctgggct ccccgaagaa ctgggtgcag gcgccgctga gcagcaggtg 240

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cagcagcagg cagagggccc aggtgagggc gcacacacag gtggtcaggt ggcgtgggcg 300
 gcggcacgag taccaggctg ggaagagggc ggccaggcac tgctccacgc tgacggccgc 360
 caggagactc agggccacga tgtagcagaa gaagcgcagc gttgccaggc tggctgtgcac 420
 gaagcccggg aagtccagcc ggccttgtag caagtcgggg acgatggcca ccatgtggca 480
 gccaaaggaag atgagatccg cgcaggccac gtccaggagg tagatggcga aagggtttct 540
 gtagacattg gagctgagc 559

<210> 72
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 72

Leu Ser Ser Asn Val Tyr Arg Asn Pro Phe Ala Ile Tyr Leu Leu Asp
 1 5 10 15
 Val Ala Cys Ala Asp Leu Ile Phe Leu Gly Cys His Met Val Ala Ile
 20 25 30
 Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe Pro Gly Phe Val Gln
 35 40 45
 Thr Ser Leu Ala Thr Leu Arg Phe Phe Cys Tyr Ile Val Gly Leu Ser
 50 55 60
 Leu Leu Ala Ala Val Ser Val Glu Gln Cys Leu Ala Ala Leu Phe Pro
 65 70 75 80
 Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu Thr Thr Cys Val Cys
 85 90 95
 Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His Leu Thr Thr Cys Val
 100 105 110
 Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His Leu Leu Leu Ser
 115 120 125
 Gly Ala Cys Thr Leu Leu Leu Ser Gly Ala Cys Thr Gln Phe Phe Gly
 130 135 140
 Glu Pro Ser Arg His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val
 145 150 155 160
 Leu Leu Ala Leu Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu
 165 170 175
 Leu Leu Arg Val Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe
 180 185 190
 Pro Gly Leu Ile Leu Leu Thr Val Leu Leu Phe Ser Ser Ala Ala Cys
 195 200 205
 Leu Arg His
 210

<210> 73
 <211> 1008
 <212> DNA

<213> Homo sapiens

<400> 73

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atggaatcat ctttctcatt tggagtgatc cttgctgtcc tggcctccct catcattgct    60
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ctctgcttca ccttgaatct ggctgtggct gacaccttga ttggtgtggc catctctggc    180
ctactcacag accagctctc cagcccttct cggccacac agaagaccct gtgcagcctg    240
cggatggcat ttgtcacttc ctccgcagct gcctctgtcc tcacggtcac gctgatcacc    300
tttgacaggt accttgccat caagcagccc ttccgtact tgaagatcat gagtgggttc    360
gtggccgggg cctgcattgc cgggctgtgg ttagtgtctt acctcattgg ctctctcca    420
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tttgtcttct tctactgca catgctcaag attgcctcca tgcacagcca gcagattcga    600
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gaacggtacc tgtggctgct cggcgtgggc aactccctgc tcaaccact catctatgcc    840
tattggcaga aggaggtgca actgcagctc taccacatgg ccctaggagt gaagaagtg    900
ctcacctcat tctctctct tctctcgcc aggaattgtg gccagagag gccagggaa    960
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<210> 74

<211> 335

<212> PRT

<213> Homo sapiens

<400> 74

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Met Glu Ser Ser Phe Ser Phe Gly Val Ile Leu Ala Val Leu Ala Ser
1          5          10         15
Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
20        25        30
Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
35        40        45
Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
50        55        60
Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
65        70        75        80
Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85        90        95
Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
100       105       110

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Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
 115 120 125
 Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
 130 135 140
 Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
 145 150 155 160
 Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
 165 170 175
 Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
 180 185 190
 Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
 195 200 205
 Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
 210 215 220
 Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
 225 230 235 240
 Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
 245 250 255
 Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
 260 265 270
 Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
 275 280 285
 Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
 290 295 300
 Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
 305 310 315 320
 Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
 325 330 335

<210> 75
 <211> 2137
 <212> DNA
 <213> Homo sapiens

<400> 75
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 aagcgttgca tctgttacc tggagacct ctgagctctc acctgctact tctgccgtg 180
 cttctgcaca gagcccgggc gaggaccct ccaggatgca ggtcccgaac agcaccggcc 240
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 tgtactcgct ggtggcggcg gtcagcatcc cgggcaacct cttctctctg tgggtgctgt 360
 gccggcgcat ggggccaga tcccgtcgg tcatcttcat gatcaacctg agcgtcacgg 420
 acctgatgct ggccagcgtg ttgcctttcc aaatctacta ccattgcaac cgccaccact 480

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 ccagcatcct caccatgacc tgtatcagcg tggagcgctt cctgggggtc ctgtaccgcg 600
 tcagctccaa gcgctggcgc cgccgtcggt acgcggtggc cgcgtgtgca gggacctggc 660
 tgctgctcct gaccgccctg tccccgctgg cgcgcaccga tctcacctac ccggtgcacg 720
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<210> 76

<211> 359

<212> PRT

<213> Homo sapiens

<400> 76

Met Gln Val Pro Asn Ser Thr Gly Pro Asp Asn Ala Thr Leu Gln Met

1	5	10	15
Leu Arg Asn Pro Ala Ile Ala Val Ala Leu Pro Val Val Tyr Ser Leu	20	25	30
Val Ala Ala Val Ser Ile Pro Gly Asn Leu Phe Ser Leu Trp Val Leu	35	40	45
Cys Arg Arg Met Gly Pro Arg Ser Pro Ser Val Ile Phe Met Ile Asn	50	55	60
Leu Ser Val Thr Asp Leu Met Leu Ala Ser Val Leu Pro Phe Gln Ile	65	70	75
Tyr Tyr His Cys Asn Arg His His Trp Val Phe Gly Val Leu Leu Cys	85	90	95
Asn Val Val Thr Val Ala Phe Tyr Ala Asn Met Tyr Ser Ser Ile Leu	100	105	110
Thr Met Thr Cys Ile Ser Val Glu Arg Phe Leu Gly Val Leu Tyr Pro	115	120	125
Leu Ser Ser Lys Arg Trp Arg Arg Arg Arg Tyr Ala Val Ala Ala Cys	130	135	140
Ala Gly Thr Trp Leu Leu Leu Thr Ala Leu Ser Pro Leu Ala Arg	145	150	155
Thr Asp Leu Thr Tyr Pro Val His Ala Leu Gly Ile Ile Thr Cys Phe	165	170	175
Asp Val Leu Lys Trp Thr Met Leu Pro Ser Val Ala Met Trp Ala Val	180	185	190
Phe Leu Phe Thr Ile Phe Ile Leu Leu Phe Leu Ile Pro Phe Val Ile	195	200	205
Thr Val Ala Cys Tyr Thr Ala Thr Ile Leu Lys Leu Leu Arg Thr Glu	210	215	220
Glu Ala His Gly Arg Glu Gln Arg Arg Arg Ala Val Gly Leu Ala Ala	225	230	235
Val Val Leu Leu Ala Phe Val Thr Cys Phe Ala Pro Asn Asn Phe Val	245	250	255
Leu Leu Ala His Ile Val Ser Arg Leu Phe Tyr Gly Lys Ser Tyr Tyr	260	265	270
His Val Tyr Lys Leu Thr Leu Cys Leu Ser Cys Leu Asn Asn Cys Leu	275	280	285
Asp Pro Phe Val Tyr Tyr Phe Ala Ser Arg Glu Phe Gln Leu Arg Leu	290	295	300
Arg Glu Tyr Leu Gly Cys Arg Arg Val Pro Arg Asp Thr Leu Asp Thr	305	310	315
Arg Arg Glu Ser Leu Phe Ser Ala Arg Thr Thr Ser Val Arg Ser Glu	325	330	335
Ala Gly Ala His Pro Glu Gly Met Glu Gly Ala Thr Arg Pro Gly Leu	340	345	350

Gln Arg Gln Glu Ser Val Phe
355

<210> 77
<211> 1197
<212> DNA
<213> Homo sapiens

<400> 77
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gcggctgagg cttccggggg cctgcgcgcg tcctgcccc cgggccttga tgggagcttc 1080
agcggctcgg agcgtcctc gccccagcgc gacgggctgg acaccagcgg ctccacaggc 1140
agccccggtg caccacagc cgcccgact ctggtatcag aaccggctgc agactga 1197

<210> 78
<211> 398
<212> PRT
<213> Homo sapiens

<400> 78
Met Glu Ser Gly Leu Leu Arg Pro Ala Pro Val Ser Glu Val Ile Val
1 5 10 15
Leu His Tyr Asn Tyr Thr Gly Lys Leu Arg Gly Ala Arg Tyr Gln Pro
20 25 30
Gly Ala Gly Leu Arg Ala Asp Ala Val Val Cys Leu Ala Val Cys Ala
35 40 45

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Phe Ile Val Leu Glu Asn Leu Ala Val Leu Leu Val Leu Gly Arg His
 50 55 60
 Pro Arg Phe His Ala Pro Met Phe Leu Leu Leu Gly Ser Leu Thr Leu
 65 70 75 80
 Ser Asp Leu Leu Ala Gly Ala Ala Tyr Ala Ala Asn Ile Leu Leu Ser
 85 90 95
 Gly Pro Leu Thr Leu Lys Leu Ser Pro Ala Leu Trp Phe Ala Arg Glu
 100 105 110
 Gly Gly Val Phe Val Ala Leu Thr Ala Ser Val Leu Ser Leu Leu Ala
 115 120 125
 Ile Ala Leu Glu Arg Ser Leu Thr Met Ala Arg Arg Gly Pro Ala Pro
 130 135 140
 Val Ser Ser Arg Gly Arg Thr Leu Ala Met Ala Ala Ala Ala Trp Gly
 145 150 155 160
 Val Ser Leu Leu Leu Gly Leu Leu Pro Ala Leu Gly Trp Asn Cys Leu
 165 170 175
 Gly Arg Leu Asp Ala Cys Ser Thr Val Leu Pro Leu Tyr Ala Lys Ala
 180 185 190
 Tyr Val Leu Phe Cys Val Leu Ala Phe Val Gly Ile Leu Ala Ala Ile
 195 200 205
 Cys Ala Leu Tyr Ala Arg Ile Tyr Cys Gln Val Arg Ala Asn Ala Arg
 210 215 220
 Arg Leu Pro Ala Arg Pro Gly Thr Ala Gly Thr Thr Ser Thr Arg Ala
 225 230 235 240
 Arg Arg Lys Pro Arg Ser Leu Ala Leu Leu Arg Thr Leu Ser Val Val
 245 250 255
 Leu Leu Ala Phe Val Ala Cys Trp Gly Pro Leu Phe Leu Leu Leu Leu
 260 265 270
 Leu Asp Val Ala Cys Pro Ala Arg Thr Cys Pro Val Leu Leu Gln Ala
 275 280 285
 Asp Pro Phe Leu Gly Leu Ala Met Ala Asn Ser Leu Leu Asn Pro Ile
 290 295 300
 Ile Tyr Thr Leu Thr Asn Arg Asp Leu Arg His Ala Leu Leu Arg Leu
 305 310 315 320
 Val Cys Cys Gly Arg His Ser Cys Gly Arg Asp Pro Ser Gly Ser Gln
 325 330 335
 Gln Ser Ala Ser Ala Ala Glu Ala Ser Gly Gly Leu Arg Arg Cys Leu
 340 345 350
 Pro Pro Gly Leu Asp Gly Ser Phe Ser Gly Ser Glu Arg Ser Ser Pro
 355 360 365
 Gln Arg Asp Gly Leu Asp Thr Ser Gly Ser Thr Gly Ser Pro Gly Ala
 370 375 380
 Pro Thr Ala Ala Arg Thr Leu Val Ser Glu Pro Ala Ala Asp

385

390

395

<210> 79

<211> 1041

<212> DNA

<213> Homo sapiens

<400> 79

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tgcttcacac tgaagacctg gaagcccagc actgtttacc ttttcaattt ggccgtggct      180
gatttcctcc ttatgatctg cctgcctttt cggacagact attacctcag acgtagacac      240
tggtgctttt gggacattcc ctgccgagtg gggctcttca cgttggccat gaacagggcc      300
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caccacgogg tgaacactat ctccaccogg gtggcggtcg gcatcgctcg caccctgtgg      420
gccctggtca tcctgggaac agtgtatctt ttgctggaga accatctctg cgtgcaagag      480
acggccgtct cctgtgagag cttcatcatg gagtggcca atggctggca tgacatcatg      540
ttccagctgg agttctttat gccctcggc atcatcttat tttgctcctt caagattgtt      600
tgtagcctga ggcgaggca gcagctggcc agacaggctc ggatgaagaa ggcgaccgg      660
ttcatcatgg tggtagcaat tgtgttcac acatgctacc tgcccagcgt gtctgctaga      720
ctctatttcc tctggacggt gccctcgagt gcctgcgac cctctgtcca tggggccctg      780
cacataaccc tcagcttcac ctacatgaac agcatgctgg atcccctggt gtattatttt      840
tcaagcccct cttttcccaa attctacaac aagctcaaaa tctgcagtct gaaaccaag      900
cagccaggac actcaaaaac acaaaggccg gaagagatgc caatttcgaa cctcggtcgc      960
aggagtgtga tcagtgtggc aaatagtttc caaagccagt ctgatgggca atgggatccc     1020
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<210> 80

<211> 346

<212> PRT

<213> Homo sapiens

<400> 80

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Met Tyr Asn Gly Ser Cys Cys Arg Ile Glu Gly Asp Thr Ile Ser Gln
1           5           10           15
Val Met Pro Pro Leu Leu Ile Val Ala Phe Val Leu Gly Ala Leu Gly
          20           25           30
Asn Gly Val Ala Leu Cys Gly Phe Cys Phe His Met Lys Thr Trp Lys
          35           40           45
Pro Ser Thr Val Tyr Leu Phe Asn Leu Ala Val Ala Asp Phe Leu Leu
          50           55           60
Met Ile Cys Leu Pro Phe Arg Thr Asp Tyr Tyr Leu Arg Arg Arg His

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65		70		75		80									
Trp	Ala	Phe	Gly	Asp	Ile	Pro	Cys	Arg	Val	Gly	Leu	Phe	Thr	Leu	Ala
			85						90					95	
Met	Asn	Arg	Ala	Gly	Ser	Ile	Val	Phe	Leu	Thr	Val	Val	Ala	Ala	Asp
			100					105					110		
Arg	Tyr	Phe	Lys	Val	Val	His	Pro	His	His	Ala	Val	Asn	Thr	Ile	Ser
		115					120					125			
Thr	Arg	Val	Ala	Ala	Gly	Ile	Val	Cys	Thr	Leu	Trp	Ala	Leu	Val	Ile
	130					135					140				
Leu	Gly	Thr	Val	Tyr	Leu	Leu	Leu	Glu	Asn	His	Leu	Cys	Val	Gln	Glu
145					150					155					160
Thr	Ala	Val	Ser	Cys	Glu	Ser	Phe	Ile	Met	Glu	Ser	Ala	Asn	Gly	Trp
			165						170					175	
His	Asp	Ile	Met	Phe	Gln	Leu	Glu	Phe	Phe	Met	Pro	Leu	Gly	Ile	Ile
			180					185					190		
Leu	Phe	Cys	Ser	Phe	Lys	Ile	Val	Trp	Ser	Leu	Arg	Arg	Arg	Gln	Gln
		195					200					205			
Leu	Ala	Arg	Gln	Ala	Arg	Met	Lys	Lys	Ala	Thr	Arg	Phe	Ile	Met	Val
	210					215					220				
Val	Ala	Ile	Val	Phe	Ile	Thr	Cys	Tyr	Leu	Pro	Ser	Val	Ser	Ala	Arg
225					230					235					240
Leu	Tyr	Phe	Leu	Trp	Thr	Val	Pro	Ser	Ser	Ala	Cys	Asp	Pro	Ser	Val
			245						250					255	
His	Gly	Ala	Leu	His	Ile	Thr	Leu	Ser	Phe	Thr	Tyr	Met	Asn	Ser	Met
			260					265					270		
Leu	Asp	Pro	Leu	Val	Tyr	Tyr	Phe	Ser	Ser	Pro	Ser	Phe	Pro	Lys	Phe
		275					280					285			
Tyr	Asn	Lys	Leu	Lys	Ile	Cys	Ser	Leu	Lys	Pro	Lys	Gln	Pro	Gly	His
	290					295					300				
Ser	Lys	Thr	Gln	Arg	Pro	Glu	Glu	Met	Pro	Ile	Ser	Asn	Leu	Gly	Arg
					310					315					320
Arg	Ser	Cys	Ile	Ser	Val	Ala	Asn	Ser	Phe	Gln	Ser	Gln	Ser	Asp	Gly
			325						330					335	
Gln	Trp	Asp	Pro	His	Ile	Val	Glu	Trp	His						
			340					345							

<210> 81
 <211> 2525
 <212> DNA
 <213> Homo sapiens

<400> 81	
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gcgatcctat agtgacaccc cacttaatca gcctctactt catagtgctt attggcgggc	120
tggtgggtgt catttccatt cttttcctcc tggtgaaaat gaacaccgg tcagtgacca	180

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ccatggcggt cattaacttg gtggtgggtcc acagcgtttt tctgctgaca gtgccatttc 240
 gcttgaccta cctcatcaag aagacttgga tgtttgggct gcccttctgc aaatttgtga 300
 gtgccatgct gcacatccac atgtacctca cgttcttatt ctatgtggtg atcctgggtca 360
 ccagatacct catcttcttc aagtgc aaag acaaagtgga attctacaga aaactgcatg 420
 ctgtggctgc cagtgtggc atgtggacgc tggtgattgt cattgtggta cccctggttg 480
 tctcccggtg tggaatccat gaggaatata atgaggagca ctgttttaa tttcacaaag 540
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 ttgctgtgat tctgttggtc ttccaggtct tcatcattat gttgatggtg cagaagctac 660
 gccactcttt actatccac caggagtctt gggctcagct gaaaaaccta ttttttatag 720
 gggctacact tgtttgtttc ctccctacc agttcttttag gatctattac ttgaatggtg 780
 tgacgcattc caatgcctgt aacagcaagg ttgcatttta taacgaaatc ttcttgagtg 840
 taacagcaat tagctgctat gatttgcttc tctttgtctt tgggggaagc cattggttta 900
 agcaaaagat aattggctta tggaattgtg ttttgtgccg ttagccacaa actacagtat 960
 tcatatttgc ttcctttata ttgggaataa aaatgggtat aggggaggta agaattggtat 1020
 ttcattactt gatcaaaacc atgccttgat gtacccaaaa caaaaggact ataaaatgca 1080
 agagccctca ttgtagtcct tatgggatcc ctcccatctc tgagtgatgg ccgtacaaag 1140
 accagtgttg ttgaatccac ctggagtgc aatattacat tattttccag tacagaatgt 1200
 ctgtgtggcc catgaaagca acataggttt taagagtttt agagtttcat tagctcattc 1260
 taagtctctc tgtttgaagc atggtctctt aggttttgga ctgaactcag acctttagtt 1320
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 caaactctcc ttcgctaacc aggttagatg tcccattcat ctcatgccct gataaaaact 1440
 gataagggga gagaatagtt aaaaattttt ctagggtatc ataactctgg taggaagtca 1500
 tctgtctaga aatcaagaga aaaagaacgt gtggcctcct gttataacaa gggtttctag 1560
 atttgtcctg tgaaaggctg ttttaaggact tggggatcaa cttcctcaat tatcaccaat 1620
 tgcaactgtg ctccaaaaat catttaaaag ctactggac atatctacat aatggtgaaa 1680
 ctgtaattta gagactatcc ctgactaatg tgctggtagg cattaaaatg agttcccaag 1740
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 cacagttaat taagattttt aggggggaca gaaagttata ctgaaatctt tagagctccc 1860
 ttccgccgtt aaaattatat atatatatat ttaaattata ccttaagttc tggggtacat 1920
 gtgcagaatg tgcaggtttg ttacataggt atacacgtgc catggtggtt tgcggcacct 1980
 gtcaacccat ctacattagg tattttctct aatgctctcc ctcccctagc cccccacccc 2040
 tggacaggcc ccattgtgtg atgttcccct ccctgtgtcc atgtgttttc attgttcaac 2100
 tcccacttct aagtgagaac atgcggtggt tggttttctg ttcctgtgtt agtttgctga 2160

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gaatgatggt ttccagggtta aaattatata tttttaataa aatgaaaact gtgttttta 2220
aagaggactt ttgagaagta tatagaaaaa ccattaattt agactctgtg agattaggtt 2280
gcatgaagaa ggttttctga atatttgaag agtggataaa taaatgtccc ccaaagcaat 2340
aaaatcataa tcctttaaaa tataggaaaa ataactaatg ggaactaggc ttaatactcg 2400
ggatgaaata atctgtacaa caaactccca tgacacatgt ttacctatgt aacaaacctg 2460
cacatgtacc cctgaactta aaataaaatt taaagtataa taataaaata atatggattt 2520
tccttt 2525

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<210> 82
<211> 312
<212> PRT
<213> Homo sapiens
<400> 82

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Met Thr Gly Asp Phe Pro Ser Met Pro Gly His Asn Thr Ser Arg Asn
1      5      10      15
Ser Ser Cys Asp Pro Ile Val Thr Pro His Leu Ile Ser Leu Tyr Phe
20     25     30
Ile Val Leu Ile Gly Gly Leu Val Gly Val Ile Ser Ile Leu Phe Leu
35     40     45
Leu Val Lys Met Asn Thr Arg Ser Val Thr Thr Met Ala Val Ile Asn
50     55     60
Leu Val Val Val His Ser Val Phe Leu Leu Thr Val Pro Phe Arg Leu
65     70     75     80
Thr Tyr Leu Ile Lys Lys Thr Trp Met Phe Gly Leu Pro Phe Cys Lys
85     90     95
Phe Val Ser Ala Met Leu His Ile His Met Tyr Leu Thr Phe Leu Phe
100    105    110
Tyr Val Val Ile Leu Val Thr Arg Tyr Leu Ile Phe Phe Lys Cys Lys
115    120    125
Asp Lys Val Glu Phe Tyr Arg Lys Leu His Ala Val Ala Ala Ser Ala
130    135    140
Gly Met Trp Thr Leu Val Ile Val Ile Val Val Pro Leu Val Val Ser
145    150    155    160
Arg Tyr Gly Ile His Glu Glu Tyr Asn Glu Glu His Cys Phe Lys Phe
165    170    175
His Lys Glu Leu Ala Tyr Thr Tyr Val Lys Ile Ile Asn Tyr Met Ile
180    185    190
Val Ile Phe Val Ile Ala Val Ala Val Ile Leu Leu Val Phe Gln Val
195    200    205
Phe Ile Ile Met Leu Met Val Gln Lys Leu Arg His Ser Leu Leu Ser
210    215    220

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His Gln Glu Phe Trp Ala Gln Leu Lys Asn Leu Phe Phe Ile Gly Val
 225 230 235 240

Ile Leu Val Cys Phe Leu Pro Tyr Gln Phe Phe Arg Ile Tyr Tyr Leu
 245 250 255

Asn Val Val Thr His Ser Asn Ala Cys Asn Ser Lys Val Ala Phe Tyr
 260 265 270

Asn Glu Ile Phe Leu Ser Val Thr Ala Ile Ser Cys Tyr Asp Leu Leu
 275 280 285

Leu Phe Val Phe Gly Gly Ser His Trp Phe Lys Gln Lys Ile Ile Gly
 290 295 300

Leu Trp Asn Cys Val Leu Cys Arg
 305 310

<210> 83

<211> 1125

<212> DNA

<213> Homo sapiens

<400> 83

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 cagctgtgct acgcgaacgt gaatgggtcc tgtgtgaaaa tccccttctc gccgggatcc 180
 cgggtgattc tgtacatagt gtttggcttt ggggctgtgc tggctgtggt tggaaacctc 240
 ctggtgatga tttcaatcct ccatttcaag cagctgcact ctccgaccaa ttttctcggt 300
 gcctctctgg cctgcgctga tttcttggtg ggtgtgactg tgatgccctt cagcatggtc 360
 aggacggtgg agagctgctg gtattttggg aggagttttt gtactttcca cacctgctgt 420
 gatgtggcat tttgttactc ttctctcttt cacttgtgct tcatctccat cgacaggtag 480
 attgcggtta ctgacccctt ggtctatcct accaagttca ccgtatctgt gtcaggaatt 540
 tgcatacagc tgtcctggat cctgcccctc atgtacagcg gtgctgtggt ctacacaggt 600
 gtctatgacg atgggctgga ggaattatct gatgccctaa actgtatagg aggttgtcag 660
 accgttgtaa atcaaaactg ggtgttgaca gattttctat ccttctttat acctaccttt 720
 attatgataa ttctgtatgg taacatattt cttgtggcta gacgacaggc gaaaaagata 780
 gaaaatactg gtagcaagac agaatacatc tcagagagtt acaaagccag agtggccagg 840
 agagagagaa aagcagctaa aaccctgggg gtcacagtgg tagcatttat gatttcatgg 900
 ttaccatata gcattgattc attaatgat gcctttatgg gctttataac ccctgcctgt 960
 atttatgaga tttgctgttg gtgtgcttat tataactcag ccatgaatcc tttgatttat 1020
 gctttatattt acccatgggt taggaaagca ataaaagtta ttgtaactgg tcagggttta 1080
 aagaacagtt cagcaacctt gaatttggtt tctgaacata tataa 1125

<210> 84

<211> 345

<212> PRT

<213> Homo sapiens

<400> 84

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Met Ser Ser Asn Ser Ser Leu Leu Val Ala Val Gln Leu Cys Tyr Ala
1      5      10      15
Asn Val Asn Gly Ser Cys Val Lys Ile Pro Phe Ser Pro Gly Ser Arg
20      25      30
Val Ile Leu Tyr Ile Val Phe Gly Phe Gly Ala Val Leu Ala Val Phe
35      40      45
Gly Asn Leu Leu Val Met Ile Ser Ile Leu His Phe Lys Gln Leu His
50      55      60
Ser Pro Thr Asn Phe Leu Val Ala Ser Leu Ala Cys Ala Asp Phe Leu
65      70      75      80
Val Gly Val Thr Val Met Pro Phe Ser Met Val Arg Thr Val Glu Ser
85      90      95
Cys Trp Tyr Phe Gly Arg Ser Phe Cys Thr Phe His Thr Cys Cys Asp
100      105      110
Val Ala Phe Cys Tyr Ser Ser Leu Phe His Leu Cys Phe Ile Ser Ile
115      120      125
Asp Arg Tyr Ile Ala Val Thr Asp Pro Leu Val Tyr Pro Thr Lys Phe
130      135      140
Thr Val Ser Val Ser Gly Ile Cys Ile Ser Val Ser Trp Ile Leu Pro
145      150      155      160
Leu Met Tyr Ser Gly Ala Val Phe Tyr Thr Gly Val Tyr Asp Asp Gly
165      170      175
Leu Glu Glu Leu Ser Asp Ala Leu Asn Cys Ile Gly Gly Cys Gln Thr
180      185      190
Val Val Asn Gln Asn Trp Val Leu Thr Asp Phe Leu Ser Phe Phe Ile
195      200      205
Pro Thr Phe Ile Met Ile Ile Leu Tyr Gly Asn Ile Phe Leu Val Ala
210      215      220
Arg Arg Gln Ala Lys Lys Ile Glu Asn Thr Gly Ser Lys Thr Glu Ser
225      230      235      240
Ser Ser Glu Ser Tyr Lys Ala Arg Val Ala Arg Arg Glu Arg Lys Ala
245      250      255
Ala Lys Thr Leu Gly Val Thr Val Val Ala Phe Met Ile Ser Trp Leu
260      265      270
Pro Tyr Ser Ile Asp Ser Leu Ile Asp Ala Phe Met Gly Phe Ile Thr
275      280      285
Pro Ala Cys Ile Tyr Glu Ile Cys Cys Trp Cys Ala Tyr Tyr Asn Ser
290      295      300
Ala Met Asn Pro Leu Ile Tyr Ala Leu Phe Tyr Pro Trp Phe Arg Lys
305      310      315      320

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Ala Ile Lys Val Ile Val Thr Gly Gln Val Leu Lys Asn Ser Ser Ala
 325 330 335

Thr Met Asn Leu Phe Ser Glu His Ile
 340 345

<210> 85
 <211> 1020
 <212> DNA
 <213> Homo sapiens

<400> 85
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 gcttttggaa attgcactga tgaaaacatc ccaactcaaga tgcactacct ccctgttatt 120
 tatggcatta tcttcctcgt gggatttcca ggcaatgcag tagtgatata cacttacatt 180
 ttcaaaatga gaccttggaa gagcagcacc atcattatgc tgaacctggc ctgcacagat 240
 ctgctgtatc tgaccagcct ccccttctctg attcactact atgccagtgg cgaaaactgg 300
 atctttggag atttcatgtg taagtttatc cgcttcagct tccatttcaa cctgtatagc 360
 agcatcctct tcctcacctg tttcagcatc ttccgctact gtgtgatcat tcacccaatg 420
 agctgctttt ccattcacaa aactcgatgt gcagttgtag cctgtgctgt ggtgtggatc 480
 atttactggt tagctgtcat tccgatgacc ttcttgatca catcaaccaa caggaccaac 540
 agatcagcct gtctcgacct caccagttcg gatgaactca atactattaa gtggtacaac 600
 ctgattttga ctgcaagtac tttctgcctc cccttggtga tagtgacact ttgctatacc 660
 acgattatcc acactttgac ccatggactg caaactgaca gctgccttaa gcagaaagca 720
 cgaaggctaa ccattctgct actccttgca ttttacgtat gttttttacc cttccatata 780
 ttgagggtca ttcaggatcg aatctcagcc tgctttcaat cagttgttcc attgagaatc 840
 agatccatga agcttacatc gtttctagac cattatgctg ctctgaacac ctttggtaac 900
 ctgttactat atgtggtggt cagcgacaac tttcagcagg ctgtctgctc aacagtgaga 960
 tgcaaaagtaa gcgggaacct tgagcaagca aagaaaatta gttactcaaa caacccttga 1020

<210> 86
 <211> 336
 <212> PRT
 <213> Homo sapiens

<400> 86

Met Asn Glu Pro Leu Asp Tyr Leu Ala Asn Ala Ser Asp Phe Pro Asp
 1 5 10 15

Tyr Ala Ala Ala Phe Gly Asn Cys Thr Asp Glu Asn Ile Pro Leu Lys
 20 25 30

Met His Tyr Leu Pro Val Ile Tyr Gly Ile Ile Phe Leu Val Gly Phe
 35 40 45

Pro Gly Asn Ala Val Val Ile Ser Thr Tyr Ile Phe Lys Met Arg Pro
 50 55 60

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Trp Lys Ser Ser Thr Ile Ile Met Leu Asn Leu Ala Cys Thr Asp Leu
65 70 75 80

Leu Tyr Leu Thr Ser Leu Pro Phe Leu Ile His Tyr Tyr Ala Ser Gly
85 90 95

Glu Asn Trp Ile Phe Gly Asp Phe Met Cys Lys Phe Ile Arg Phe Ser
100 105 110

Phe His Phe Asn Leu Tyr Ser Ser Ile Leu Phe Leu Thr Cys Phe Ser
115 120 125

Ile Phe Arg Tyr Cys Val Ile Ile His Pro Met Ser Cys Phe Ser Ile
130 135 140

His Lys Thr Arg Cys Ala Val Val Ala Cys Ala Val Val Trp Ile Ile
145 150 155 160

Ser Leu Val Ala Val Ile Pro Met Thr Phe Leu Ile Thr Ser Thr Asn
165 170 175

Arg Thr Asn Arg Ser Ala Cys Leu Asp Leu Thr Ser Ser Asp Glu Leu
180 185 190

Asn Thr Ile Lys Trp Tyr Asn Leu Ile Leu Thr Ala Ser Thr Phe Cys
195 200 205

Leu Pro Leu Val Ile Val Thr Leu Cys Tyr Thr Thr Ile Ile His Thr
210 215 220

Leu Thr His Gly Leu Gln Thr Asp Ser Cys Leu Lys Gln Lys Ala Arg
225 230 235 240

Arg Leu Thr Ile Leu Leu Leu Leu Ala Phe Tyr Val Cys Phe Leu Pro
245 250 255

Phe His Ile Leu Arg Val Ile Gln Asp Arg Ile Ser Ala Cys Phe Gln
260 265 270

Ser Val Val Pro Leu Arg Ile Arg Ser Met Lys Leu Thr Ser Phe Leu
275 280 285

Asp His Tyr Ala Ala Leu Asn Thr Phe Gly Asn Leu Leu Leu Tyr Val
290 295 300

Val Val Ser Asp Asn Phe Gln Gln Ala Val Cys Ser Thr Val Arg Cys
305 310 315 320

Lys Val Ser Gly Asn Leu Glu Gln Ala Lys Lys Ile Ser Tyr Ser Asn
325 330 335

<210> 87

<211> 1138

<212> DNA

<213> Homo sapiens

<400> 87

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tattcttcaa cagagagtaa taggtaaatg ttttagaagt gagaggactc aaattgccaa 120

tgatttactc ttttattttt cctcctaggt ttctgggata agtatgtgca aataaaaaat 180

aaacatgaga aggaactgta acctgattat ggatttggga aaaagataaa tcaacacaca 240

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aagggaaaag taaactgatt gacagccctc aggaatgatg cccttttgcc acaatataat 300
taatatttcc tgtgtgaaaa acaactgggc aaatgatgtc cgtgcttccc tgtacagttt 360
aatgggtgctc ataattctga ccacactcgt tggcaatctg atagttattg tttctatata 420
acacttcaaa caacttcata cccaacaaa ttggctcatt cattccatgg ccaactgtgga 480
ctttcttctg ggggtgtctg tcatgcctta cagtatgggt agatctgctg agcactgttg 540
gtatttttga gaagtcttct gtaaaattca cacaagcacc gacattatgc tgagctcagc 600
ctccattttc catttgtctt tcatctccat tgaccgctac tatgctgtgt gtgatccact 660
gagatataaa gccaagatga atatcttggt tatttgtgtg atgatcttca ttagttggag 720
tgtccctgct gtttttgcatt ttggaatgat ctttctggag ctaaacttca aaggcgctga 780
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atctggggta ctgaccttta tgacttcttt ttatatacct ggatctatta tgttatgtgt 900
ctattacaga atatatctta tcgctaaaga acaggcaaga ttaattagtg atgccaatca 960
gaagctccaa attggattgg aaatgaaaaa tggaatttca caaagcaaag aaaggaaagc 1020
tgtgaagaca ttggggattg tgatgggagt tttcctaata tgctgggtgcc ctttctttat 1080
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<210> 88
<211> 296
<212> PRT
<213> Homo sapiens

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<400> 88

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Met Met Pro Phe Cys His Asn Ile Ile Asn Ile Ser Cys Val Lys Asn
1          5          10          15
Asn Trp Ser Asn Asp Val Arg Ala Ser Leu Tyr Ser Leu Met Val Leu
20          25          30
Ile Ile Leu Thr Thr Leu Val Gly Asn Leu Ile Val Ile Val Ser Ile
35          40          45
Ser His Phe Lys Gln Leu His Thr Pro Thr Asn Trp Leu Ile His Ser
50          55          60
Met Ala Thr Val Asp Phe Leu Leu Gly Cys Leu Val Met Pro Tyr Ser
65          70          75          80
Met Val Arg Ser Ala Glu His Cys Trp Tyr Phe Gly Glu Val Phe Cys
85          90          95
Lys Ile His Thr Ser Thr Asp Ile Met Leu Ser Ser Ala Ser Ile Phe
100         105         110
His Leu Ser Phe Ile Ser Ile Asp Arg Tyr Tyr Ala Val Cys Asp Pro
115         120         125
Leu Arg Tyr Lys Ala Lys Met Asn Ile Leu Val Ile Cys Val Met Ile
130         135         140

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Phe Ile Ser Trp Ser Val Pro Ala Val Phe Ala Phe Gly Met Ile Phe
 145 150 155 160
 Leu Glu Leu Asn Phe Lys Gly Ala Glu Glu Ile Tyr Tyr Lys His Val
 165 170 175
 His Cys Arg Gly Gly Cys Ser Val Phe Phe Ser Lys Ile Ser Gly Val
 180 185 190
 Leu Thr Phe Met Thr Ser Phe Tyr Ile Pro Gly Ser Ile Met Leu Cys
 195 200 205
 Val Tyr Tyr Arg Ile Tyr Leu Ile Ala Lys Glu Gln Ala Arg Leu Ile
 210 215 220
 Ser Asp Ala Asn Gln Lys Leu Gln Ile Gly Leu Glu Met Lys Asn Gly
 225 230 235 240
 Ile Ser Gln Ser Lys Glu Arg Lys Ala Val Lys Thr Leu Gly Ile Val
 245 250 255
 Met Gly Val Phe Leu Ile Cys Trp Cys Pro Phe Phe Ile Cys Thr Val
 260 265 270
 Met Asp Pro Phe Leu His Tyr Ile Ile Pro Pro Thr Leu Asn Asp Ala
 275 280 285
 Arg Gly Ser Arg Ala Asn Ser Ala
 290 295

<210> 89

<211> 1023

<212> DNA

<213> Homo sapiens

<400> 89

ggaatgatgc ctttttgcca caatataatt aatatttcct gtgtgaaaaa caactgggtca 60
 aatgatgtcc gtgcttcct gtacagttta atggtgctca taattctgac cacactcgtt 120
 ggcaatctga tagttattgt ttctatatca cacttcaaac aacttcatac cccaacaaat 180
 tggctcattc attccatggc cactgtggac tttcttctgg ggtgtctggt catgccttac 240
 agtatgggtga gatctgctga gcactgttggt ttttttgag aagtcttctg taaaattcac 300
 acaagcaccg acattatgct gagctcagcc tccattttcc atttgtcttt catctccatt 360
 gaccgctact atgctgtgtg tgatccactg agatataaag ccaagatgaa tatcttggtt 420
 atttgtgtga tgatcttcat tagttggagt gtccctgctg tttttgcatt tggaatgatc 480
 tttctggagc taaacttcaa aggcgctgaa gagatatatt acaaacatgt tcaactgcaga 540
 ggaggttgct ctgtcttctt tagcaaaaata tctgggggtac tgacctttat gacttctttt 600
 tatataacctg gatctattat gttatgtgtc tattacagaa tatatcttat cgctaaagaa 660
 caggcaagat taattagtga tgccaatcag aagctccaaa ttggattgga aatgaaaaat 720
 ggaatttcac aaagcaaaga aaggaaagct gtgaagacat tggggattgt gatgggagtt 780
 ttcttaatat gctgggtgcc tttctttatc tgtacagtca tggacccttt tcttcactac 840

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attattccac ctactttgaa tgatgtattg atttggtttg gctacttgaa ctctacattt 900
aatccaatgg tttatgcatt tttctatcct tggtttagaa aagcactgaa gatgatgctg 960
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tag 1023

<210> 90
<211> 339
<212> PRT
<213> Homo sapiens

<400> 90

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Ile Ile Leu Thr Thr Leu Val Gly Asn Leu Ile Val Ile Val Ser Ile
35 40 45
Ser His Phe Lys Gln Leu His Thr Pro Thr Asn Trp Leu Ile His Ser
50 55 60
Met Ala Thr Val Asp Phe Leu Leu Gly Cys Leu Val Met Pro Tyr Ser
65 70 75 80
Met Val Arg Ser Ala Glu His Cys Trp Tyr Phe Gly Glu Val Phe Cys
85 90 95
Lys Ile His Thr Ser Thr Asp Ile Met Leu Ser Ser Ala Ser Ile Phe
100 105 110
His Leu Ser Phe Ile Ser Ile Asp Arg Tyr Tyr Ala Val Cys Asp Pro
115 120 125
Leu Arg Tyr Lys Ala Lys Met Asn Ile Leu Val Ile Cys Val Met Ile
130 135 140
Phe Ile Ser Trp Ser Val Pro Ala Val Phe Ala Phe Gly Met Ile Phe
145 150 155 160
Leu Glu Leu Asn Phe Lys Gly Ala Glu Glu Ile Tyr Tyr Lys His Val
165 170 175
His Cys Arg Gly Gly Cys Ser Val Phe Phe Ser Lys Ile Ser Gly Val
180 185 190
Leu Thr Phe Met Thr Ser Phe Tyr Ile Pro Gly Ser Ile Met Leu Cys
195 200 205
Val Tyr Tyr Arg Ile Tyr Leu Ile Ala Lys Glu Gln Ala Arg Leu Ile
210 215 220
Ser Asp Ala Asn Gln Lys Leu Gln Ile Gly Leu Glu Met Lys Asn Gly
225 230 235 240
Ile Ser Gln Ser Lys Glu Arg Lys Ala Val Lys Thr Leu Gly Ile Val
245 250 255
Met Gly Val Phe Leu Ile Cys Trp Cys Pro Phe Phe Ile Cys Thr Val

260

265

270

Met Asp Pro Phe Leu His Tyr Ile Ile Pro Pro Thr Leu Asn Asp Val
 275 280 285

Leu Ile Trp Phe Gly Tyr Leu Asn Ser Thr Phe Asn Pro Met Val Tyr
 290 295 300

Ala Phe Phe Tyr Pro Trp Phe Arg Lys Ala Leu Lys Met Met Leu Phe
 305 310 315 320

Gly Lys Ile Phe Gln Lys Asp Ser Ser Arg Cys Lys Leu Phe Leu Glu
 325 330 335

Leu Ser Ser

<210> 91

<211> 1696

<212> DNA

<213> Homo sapiens

<400> 91

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 cacagcaccg tctctcccat actcggatcat tcacaccatc attgattcac caggcaccac 180
 tccgtgtcca gcaggactct ggggaccca aatggacact accatggaag ctgacctggg 240
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 ctgggacacg gtcttcctgg tggccctgct gtccttggg ctgccagcca atgggttgat 360
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 cctgctggcg ctgtgccac actggtaccc tgggcaaccg ccagtccgcc tgcccctctg 660
 ggtctgcgcc ggtgtctggg tgctggccac actcttcagc gtgccctggc tgggtcttccc 720
 cgaggctgcc gtctggtggt acgacctggt catctgcctg gacttctggg acagcgagga 780
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acagatggat cctgtggccc agcctcaggt gaacccaca ctccagccac gatcggatcc 1320
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acagctgaac ctcatggccc agccacagtc agattctgtg gcccagccac aggcagacac 1440
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cccaacccca tcctcgcac ctacccaggg ggcccttgag gacccagcca cacctcctgc 1560
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gaaccagcca gtcaga 1696

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<210> 92
<211> 505
<212> PRT
<213> Homo sapiens

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<400> 92

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20        25        30
Gly Pro Gln Met Asp Thr Thr Met Glu Ala Asp Leu Gly Ala Thr Gly
35        40        45
His Arg Pro Arg Thr Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly
50        55        60
Gly Trp Asp Thr Val Phe Leu Val Ala Leu Leu Leu Gly Leu Pro
65        70        75        80
Ala Asn Gly Leu Met Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly
85        90        95
Ala Gly Thr Arg Leu Ala Leu Leu Leu Ser Leu Ala Leu Ser Asp
100       105       110
Phe Leu Phe Leu Ala Ala Ala Ala Phe Gln Ile Leu Glu Ile Arg His
115       120       125
Gly Gly His Trp Pro Leu Gly Thr Ala Ala Cys Arg Phe Tyr Tyr Phe
130       135       140
Leu Trp Gly Val Ser Tyr Ser Ser Gly Leu Phe Leu Leu Ala Ala Leu
145       150       155       160
Ser Leu Asp Arg Cys Leu Leu Ala Leu Cys Pro His Trp Tyr Pro Gly
165       170       175
His Arg Pro Val Arg Leu Pro Leu Trp Val Cys Ala Gly Val Trp Val
180       185       190
Leu Ala Thr Leu Phe Ser Val Pro Trp Leu Val Phe Pro Glu Ala Ala
195       200       205
Val Trp Trp Tyr Asp Leu Val Ile Cys Leu Asp Phe Trp Asp Ser Glu
210       215       220

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Glu Leu Ser Leu Arg Met Leu Glu Val Leu Gly Gly Phe Leu Pro Phe
 225 230 235 240
 Leu Leu Leu Leu Val Cys His Val Leu Thr Gln Ala Thr Ala Cys Arg
 245 250 255
 Thr Cys His Arg Gln Gln Gln Pro Ala Ala Cys Arg Gly Phe Ala Arg
 260 265 270
 Val Ala Arg Thr Ile Leu Ser Ala Tyr Val Val Leu Arg Leu Pro Tyr
 275 280 285
 Gln Leu Ala Gln Leu Leu Tyr Leu Ala Phe Leu Trp Asp Val Tyr Ser
 290 295 300
 Gly Tyr Leu Leu Trp Glu Ala Leu Val Tyr Ser Asp Tyr Leu Ile Leu
 305 310 315 320
 Leu Asn Ser Cys Leu Ser Pro Phe Leu Cys Leu Met Ala Ser Ala Asp
 325 330 335
 Leu Arg Thr Leu Leu Arg Ser Val Leu Ser Ser Phe Ala Ala Ala Leu
 340 345 350
 Cys Glu Glu Arg Pro Gly Ser Phe Thr Pro Thr Glu Pro Gln Thr Gln
 355 360 365
 Leu Asp Ser Glu Gly Pro Thr Leu Pro Glu Pro Met Ala Glu Ala Gln
 370 375 380
 Ser Gln Met Asp Pro Val Ala Gln Pro Gln Val Asn Pro Thr Leu Gln
 385 390 395 400
 Pro Arg Ser Asp Pro Thr Ala Gln Pro Gln Leu Asn Pro Thr Ala Gln
 405 410 415
 Pro Gln Ser Asp Pro Thr Ala Gln Pro Gln Leu Asn Leu Met Ala Gln
 420 425 430
 Pro Gln Ser Asp Ser Val Ala Gln Pro Gln Ala Asp Thr Asn Val Gln
 435 440 445
 Thr Pro Ala Pro Ala Ala Ser Ser Val Pro Ser Pro Cys Asp Glu Ala
 450 455 460
 Ser Pro Thr Pro Ser Ser His Pro Thr Pro Gly Ala Leu Glu Asp Pro
 465 470 475 480
 Ala Thr Pro Pro Ala Ser Glu Gly Glu Ser Pro Ser Ser Thr Pro Pro
 485 490 495
 Glu Ala Ala Pro Gly Ala Gly Pro Thr
 500 505

<210> 93

<211> 1413

<212> DNA

<213> Homo sapiens

<400> 93

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gatgatgagg actcctaccc ccaaggtggc tgggacacgg tcttctgtgt ggccctgctg 120

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ctggcagcag cggccttcca gatcctagag atccggcatg ggggacactg gccgctgggg 300
acagctgcct gccgcttcta ctacttccta tggggcgtgt cctactcctc cggcctcttc 360
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atctgcctgg acttctggga cagcgaggag ctgtcgtgga ggatgctgga ggtcctgggg 600
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cgcacctgcc accgccaaca gcagcccgca gcctgccggg gcttcgcccg tgtggccagg 720
accattctgt cagcctatgt ggtcctgagg ctgccctacc agctggcca gctgctctac 780
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aaccacacac tccagccagc atcgatccc acagctcagc cacagctgaa ccctacggcc 1140
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gactctgtgg ccagccaca ggcagacact aacgtccaga ccctgcacc tgetgccagt 1260
tctgtgcca gtccctgtga tgaagcttcc ccaacccat cctcgcatcc taccaggg 1320
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ccagaggcgg ccccgggcgc agggccacg tga 1413

<210> 94
<211> 419
<212> PRT
<213> Homo sapiens

<400> 94

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Arg Thr Glu Leu Asp Asp Glu Asp Ser Tyr Pro Gln Gly Gly Trp Asp
20 25 30

Thr Val Phe Leu Val Ala Leu Leu Leu Gly Leu Pro Ala Asn Gly
35 40 45

Leu Met Ala Trp Leu Ala Gly Ser Gln Ala Arg His Gly Ala Gly Thr
50 55 60

Arg Leu Ala Leu Leu Leu Ser Leu Ala Leu Ser Asp Phe Leu Phe

65		70		75		80									
Leu	Ala	Ala	Ala	Ala	Phe	Gln	Ile	Leu	Glu	Ile	Arg	His	Gly	Gly	His
				85					90					95	
Trp	Pro	Leu	Gly	Thr	Ala	Ala	Cys	Arg	Phe	Tyr	Tyr	Phe	Leu	Trp	Gly
			100					105					110		
Val	Ser	Tyr	Ser	Ser	Gly	Leu	Phe	Leu	Leu	Ala	Ala	Leu	Ser	Leu	Asp
		115					120					125			
Arg	Cys	Leu	Leu	Ala	Leu	Cys	Pro	His	Trp	Tyr	Pro	Gly	His	Arg	Pro
	130					135					140				
Val	Arg	Leu	Pro	Leu	Trp	Val	Cys	Ala	Gly	Val	Trp	Val	Leu	Ala	Thr
145					150					155					160
Leu	Phe	Ser	Val	Pro	Trp	Leu	Val	Phe	Pro	Glu	Ala	Ala	Val	Trp	Trp
			165						170					175	
Tyr	Asp	Leu	Val	Ile	Cys	Leu	Asp	Phe	Trp	Asp	Ser	Glu	Glu	Leu	Ser
		180						185					190		
Leu	Arg	Met	Leu	Glu	Val	Leu	Gly	Gly	Phe	Leu	Pro	Phe	Leu	Leu	Leu
		195					200					205			
Leu	Val	Cys	His	Val	Leu	Thr	Gln	Ala	Thr	Ala	Cys	Arg	Thr	Cys	His
	210					215					220				
Arg	Gln	Gln	Gln	Pro	Ala	Ala	Cys	Arg	Gly	Phe	Ala	Arg	Val	Ala	Arg
225					230					235					240
Thr	Ile	Leu	Ser	Ala	Tyr	Val	Val	Leu	Arg	Leu	Pro	Tyr	Gln	Leu	Ala
			245						250					255	
Gln	Leu	Leu	Tyr	Leu	Ala	Phe	Leu	Trp	Asp	Val	Tyr	Ser	Gly	Tyr	Leu
			260					265					270		
Leu	Trp	Glu	Ala	Leu	Val	Tyr	Ser	Asp	Tyr	Leu	Ile	Leu	Leu	Asn	Ser
		275					280					285			
Cys	Leu	Ser	Pro	Phe	Leu	Cys	Leu	Met	Ala	Ser	Ala	Asp	Leu	Arg	Thr
	290					295					300				
Leu	Leu	Arg	Ser	Val	Leu	Ser	Ser	Phe	Ala	Ala	Ala	Leu	Cys	Glu	Glu
305					310					315					320
Arg	Pro	Gly	Ser	Phe	Thr	Pro	Thr	Glu	Pro	Gln	Thr	Gln	Leu	Asp	Ser
			325						330					335	
Glu	Gly	Pro	Thr	Leu	Pro	Glu	Pro	Met	Ala	Glu	Ala	Gln	Ser	Gln	Met
			340					345					350		
Asp	Pro	Val	Ala	Gln	Pro	Gln	Val	Asn	Pro	Thr	Leu	Gln	Pro	Arg	Ser
		355					360					365			
Asp	Pro	Thr	Ala	Gln	Pro	Gln	Leu	Asn	Pro	Thr	Ala	Gln	Pro	Gln	Ser
	370					375					380				
Asp	Pro	Thr	Ala	Gln	Pro	Gln	Leu	Asn	Leu	Met	Ala	Gln	Pro	Gln	Ser
385					390					395					400
Asp	Ser	Val	Ala	Gln	Pro	Gln	Ala	Asp	Thr	Asn	Val	Gln	Thr	Pro	Ala
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Pro Ala Ala

<210> 95
<211> 49
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<220>
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<223> Novel Sequence

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49

<210> 96
<211> 49
<212> DNA
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<220>
<221> misc_feature
<223> Novel Sequence

<400> 96
ttcactogag ttagccatca aactctgagc tggagatagt gacgatgtg

49

<210> 97
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 97
gctcaaccga ctcattctatg cc

22

<210> 98
<211> 22
<212> DNA
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<220>
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<223> Novel Sequence

<400> 98
aaacttctct gcccttaccg tc

22

<210> 99
<211> 20
<212> DNA
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<400> 99
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<210> 100
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<220>
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<223> Novel Sequence

<400> 100
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<210> 101
<211> 28
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<400> 101
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<210> 102
<211> 30
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<400> 102
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<210> 103
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<210> 104

<211> 30
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<400> 104
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<210> 105
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<400> 105
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19

<210> 106
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<220>
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<400> 106
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18

<210> 107
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<400> 107
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33

<210> 108
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<400> 108
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<210> 109
<211> 20
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<220>
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<400> 109
gaagcccagc actgtttacc 20

<210> 110
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<400> 110
tgaaatacct gtccgcagcc 20

<210> 111
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
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<400> 111
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<210> 112
<211> 34
<212> DNA
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<220>
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<400> 112
gatcctcgag gctaacggca caaaacacaa ttcc 34

<210> 113
<211> 19
<212> DNA
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<220>
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<400> 113
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19

<210> 114
 <211> 19
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<220>
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<400> 114
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19

<210> 115
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 <212> DNA
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<220>
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<400> 115
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<210> 116
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 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 116
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39

<210> 117
 <211> 20
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<400> 117
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20

<210> 118
 <211> 22
 <212> DNA
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<400> 118
ccgcaggagc aatgaaaatc ag 22

<210> 119
<211> 19
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<400> 119
ctgaaagttg tcgctgacc 19

<210> 120
<211> 21
<212> DNA
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<220>
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<223> Novel Sequence

<400> 120
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<210> 121
<211> 25
<212> DNA
<213> Artificial Sequence

<400> 121
gcataccatg aatgagccac tagac 25

<210> 122
<211> 30
<212> DNA
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<220>
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<400> 122
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<210> 123
<211> 20
<212> DNA
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<220>
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<223> Novel Sequence

<400> 123
ctgtctctct gtcctcttcc 20

<210> 124

<211> 22
 <212> DNA
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<220>
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 <223> Novel Sequence

<400> 124
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<210> 125
 <211> 22
 <212> DNA
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<220>
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<400> 125
 acttcaaaca acttcatacc cc 22

<210> 126
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 <212> DNA
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<220>
 <221> misc_feature
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<400> 126
 acacacagca tagtagcg 18

<210> 127
 <211> 20
 <212> DNA
 <213> Artificial Sequence

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<400> 127
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<210> 128
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 <212> DNA
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<220>
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<400> 128
cccataggaa gtagtagaag

20

<210> 129
<211> 9
<212> PRT
<213> Synthetic substrate peptide

<220>
<221> misc_feature
<223> Novel Sequence

<400> 129

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1 5

<210> 130
<211> 52
<212> DNA
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<220>
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<400> 130
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<210> 131
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 131
tgccacactg atgcaactcc

20

<210> 132
<211> 48
<212> DNA
<213> Artificial Sequence

<400> 132
gcgtaatacg actcactata gggagacctg ccacactgat gcaactcc

48

<210> 133
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 133
 gcgtgtctgc tagactctat ttcc 24

<210> 134
 <211> 50
 <212> DNA
 <213> Artificial Sequence

<400> 134
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<210> 135
 <211> 24
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<220>
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 <223> Novel Sequence

<400> 135
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<210> 136
 <211> 52
 <212> DNA
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<400> 136
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 <213> Artificial Sequence

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 <223> Novel Sequence

<400> 137
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<210> 138
 <211> 49
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<220>
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<400> 138
gcgtaatacg actcactata gggagacctt atgagcagca attcatccc 49

<210> 139
<211> 20
<212> DNA
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<220>
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<400> 139
cacacccacc aagaaatcag 20

<210> 140
<211> 48
<212> DNA
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<220>
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<400> 140
gcgtaatacg actcactata gggagaccca caccaccaa gaaatcag 48

<210> 141
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<400> 141
ttatgagcag caattcatcc c 21

<210> 142
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<220>
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<400> 142
gcgtaatacg actcactata gggagacccg attatccaca ctttgaccc 49

<210> 143
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<400> 143
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19

<210> 144
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 <212> DNA
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<400> 144
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50

<210> 145
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<400> 145
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21

<210> 146
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<220>
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<400> 146
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50

<210> 147
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<220>
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<400> 147
 agaagacaga gcaacctcc

19

<210> 148
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 <223> Novel Sequence

<400> 148
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48

<210> 149
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 <212> DNA
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<220>
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<400> 149
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22

<210> 150
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 <212> DNA
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<220>
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<400> 150
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31

<210> 151
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<220>
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<400> 151
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31

<210> 152
 <211> 31
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<220>
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 <223> Novel Sequence

<400> 152
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<210> 153
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<212> DNA
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<220>
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<400> 153
gacctcgag catcattcaa agtaggtgg 29

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<400> 154
gacctcgag ctatgaactc aattccaaaa ataatttaca cc 42

<210> 155
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<400> 155
gctacttgaa ctctacattt aatccaatgg tttatgcatt tttctatcc 49

<210> 156
<211> 49
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<223> Novel Sequence

<400> 156
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<220>

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<223> Novel Sequence

<400> 157

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35

<210> 158

<211> 31

<212> DNA

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<220>

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<223> Novel Sequence

<400> 158

gacacctgag tcacgtgggg cctgcgcccg g

31

<210> 159

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 159

gcgtaatacg actcactata gggagaccgc gtgtctgcta gactctattt cc

52

<210> 160

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 160

tgccacactg atgcaactcc

20

<210> 161

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 161

gcgtaatacg actcactata gggagacctg ccacactgat gcaactcc

48

<210> 162
 <211> 24
 <212> DNA
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<220>
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<400> 162
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24

<210> 163
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<220>
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<400> 163
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50

<210> 164
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 <212> DNA
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<400> 164
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24

<210> 165
 <211> 52
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 165
 gcgtaatacg actcactata gggagaccgc acaaaacaca attccataag cc

52

<210> 166
 <211> 23
 <212> DNA
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<220>
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<223> Novel Sequence

<400> 166

gctacgccac tctttactat ccc

23

<210> 167

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 167

gcgtaatacg actcactata gggagacctt atgagcagca attcatccc

49

<210> 168

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 168

cacaccacc aagaaatcag

20

<210> 169

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 169

gcgtaatacg actcactata gggagacca caccaccaa gaaatcag

48

<210> 170

<211> 21

<212> DNA

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<220>

<221> misc_feature

<223> Novel Sequence

<400> 170

ttatgagcag caattcatcc c

21

<210> 171

<211> 49

<212> DNA
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<400> 171
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49

<210> 172
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 <213> Artificial Sequence

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<400> 172
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19

<210> 173
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<400> 173
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50

<210> 174
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<220>
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<400> 174
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21

<210> 175
 <211> 50
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<400> 175

gcgtaatacg actcactata gggagaccct gtaaaattca cacaagcacc 50

<210> 176
 <211> 19
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<400> 176
 agaagacaga gcaacctcc 19

<210> 177
 <211> 47
 <212> DNA
 <213> Artificial Sequence

<220>
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 <223> Novel Sequence

<400> 177
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<210> 178
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 178
 ctgtaaaatt cacacaagca cc 22

<210> 179
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc_feature
 <223> Novel Sequence

<400> 179
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<210> 180
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<220>

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<400> 180
gcatgaattc acaatgccag tgataaggaa g 31

<210> 181
<211> 20
<212> DNA
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<220>
<221> misc_feature
<223> Novel Sequence

<400> 181
acagccccaa agccaaacac 20

<210> 182
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 182
ccgcaggagc aatgaaaatc ag 22

<210> 183
<211> 20
<212> DNA
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<220>
<221> misc_feature
<223> Novel Sequence

<400> 183
ctgtctctct gtcctcttcc 20

<210> 184
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 184
gcaccgatct tcattgaatt tc 22

<210> 185

<211> 1188
 <212> DNA
 <213> Homo sapiens

<400> 185
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 atgggccccg gcgaggcgct gctggcgggt ctcttggtga tggtagctggc cgtggcgctg 120
 ctatccaacg cactggtgct gctttgttgc gcctacagcg ctgagctccg cactcgagcc 180
 tcaggcgctc tcctggtgaa tctgtctctg ggccacctgc tgctggcggc gctggacatg 240
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 gtcattggct tcctggacac cttcctggcg tccaacgcgg cgctgagcgt ggcggcgctg 360
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 cgctatgccg gcctgctgct gggctgtgcc tggggacagt cgctggcctt ctcaggcgct 480
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<210> 186
 <211> 363
 <212> PRT
 <213> Homo sapiens

<400> 186
 Met Gly Pro Gly Glu Ala Leu Leu Ala Gly Leu Leu Val Met Val Leu
 1 5 10 15
 Ala Val Ala Leu Leu Ser Asn Ala Leu Val Leu Leu Cys Cys Ala Tyr
 20 25 30
 Ser Ala Glu Leu Arg Thr Arg Ala Ser Gly Val Leu Leu Val Asn Leu
 35 40 45
 Ser Leu Gly His Leu Leu Leu Ala Ala Leu Asp Met Pro Phe Thr Leu
 50 55 60

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Leu Gly Val Met Arg Gly Arg Thr Pro Ser Ala Pro Gly Ala Cys Gln
65 70 75 80

Val Ile Gly Phe Leu Asp Thr Phe Leu Ala Ser Asn Ala Ala Leu Ser
85 90 95

Val Ala Ala Leu Ser Ala Asp Gln Trp Leu Ala Val Gly Phe Pro Leu
100 105 110

Arg Tyr Ala Gly Arg Leu Arg Pro Arg Tyr Ala Gly Leu Leu Leu Gly
115 120 125

Cys Ala Trp Gly Gln Ser Leu Ala Phe Ser Gly Ala Ala Leu Gly Cys
130 135 140

Ser Trp Leu Gly Tyr Ser Ser Ala Phe Ala Ser Cys Ser Leu Arg Leu
145 150 155 160

Pro Pro Glu Pro Glu Arg Pro Arg Phe Ala Ala Phe Thr Ala Thr Leu
165 170 175

His Ala Val Gly Phe Val Leu Pro Leu Ala Val Leu Cys Leu Thr Ser
180 185 190

Leu Gln Val His Arg Val Ala Arg Arg His Cys Gln Arg Met Asp Thr
195 200 205

Val Thr Met Lys Ala Leu Ala Leu Leu Ala Asp Leu His Pro Ser Val
210 215 220

Arg Gln Arg Cys Leu Ile Gln Gln Lys Arg Arg Arg His Arg Ala Thr
225 230 235 240

Arg Lys Ile Gly Ile Ala Ile Ala Thr Phe Leu Ile Cys Phe Ala Pro
245 250 255

Tyr Val Met Thr Arg Leu Ala Glu Leu Val Pro Phe Val Thr Val Asn
260 265 270

Ala Gln Trp Gly Ile Leu Ser Lys Cys Leu Thr Tyr Ser Lys Ala Val
275 280 285

Ala Asp Pro Phe Thr Tyr Ser Leu Leu Arg Arg Pro Phe Arg Gln Val
290 295 300

Leu Ala Gly Met Val His Arg Leu Leu Lys Arg Thr Pro Arg Pro Ala
305 310 315 320

Ser Thr His Asp Ser Ser Leu Asp Val Ala Gly Met Val His Gln Leu
325 330 335

Leu Lys Arg Thr Pro Arg Pro Ala Ser Thr His Asn Gly Ser Val Asp
340 345 350

Thr Glu Asn Asp Ser Cys Leu Gln Gln Thr His
355 360

<210> 187

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<223> Novel Sequence

<400> 187
gcataagctt gccatgggcc ccggcgagg 29

<210> 188
<211> 28
<212> DNA
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<220>
<221> misc_feature
<223> Novel Sequence

<400> 188
gcattctaga cctcagtgtg tctgctgc 28

<210> 189
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<223> Novel Sequence

<400> 189
tgctgctttg ttgcgcctac 20

<210> 190
<211> 18
<212> DNA
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<220>
<221> misc_feature
<223> Novel Sequence

<400> 190
ttggacgcca ggaagggtg 18

<210> 191
<211> 1644
<212> DNA
<213> Homo sapiens

<400> 191
actaactttg ggaactcgta tagaccacgc gtcgctcccc gcgcgcctc gcctccactt 60

tggtttcccg cgtcctgccc gccctcttcg gtgcctctc ttcctccggg acaaggatgg 120

aggatctctt tagccctca attctgccgc cggcgcccaa catttccgtg cccatcttgc 180

tgggctgggg tctcaacctg accttggggc aaggagcccc tgcctctggg ccgcccagcc 240

cgcgctgcggg ggcacggcgc tgtcacagct ggcctgggaa ctgctgggag agccccgcgc 300

ggccacgggg gacctggcgt gccgcttctt gcagctgctg caggcatccg ggcggggcgc 360

ctcgccccac ctagtggtgc tcacgcacct cgagcgccg cgcgcggtgc gtcttccgca 420
 cggccggccg ctgcccgcgc gtgcccctgc cgccttgggc tggtgctgg cactgctgct 480
 ggcgtgccc ccggccttcg tggcgcgcg ggactcccc tcgcgctgc cgcgcgcgc 540
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 cgaggccgtc gcgggcttcg tcgcgcctgt tacggctctg ggcgtcgctt gcggccacct 720
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 cgcgccgag ggaggcgcg aggacgagga ggggccccgc ggccaccagg cgctctaccg 1140
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 gcttgcccc accccctccg cgcgccagac ccctgccttg ctctgcgaa agtgccttct 1260
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 ttccagtttc tcttcttccc tacagttcct ctcatatctc ccatttgga gacagtgagc 1500
 cactggaaag ttgtaaaaac aaaaacagtt atttttgag ttttcttca cgcatttata 1560
 gtgctctgga taatgccatt tatttttgct gattacccaa ctttcagtat ttgctgtgtt 1620
 atcatctgta tttacttatt ttga 1644

<210> 192
 <211> 513
 <212> PRT
 <213> Homo sapiens

<400> 192

Met Glu Asp Leu Phe Ser Pro Ser Ile Leu Pro Pro Ala Pro Asn Ile
 1 5 10 15
 Ser Val Pro Ile Leu Leu Gly Trp Gly Leu Asn Leu Thr Leu Gly Gln
 20 25 30
 Gly Ala Pro Ala Ser Gly Pro Pro Ser Arg Arg Val Arg Leu Val Phe
 35 40 45
 Leu Gly Val Ile Leu Val Val Ala Val Ala Gly Asn Thr Thr Val Leu
 50 55 60

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Cys Arg Leu Cys Gly Gly Gly Gly Pro Trp Ala Gly Pro Lys Arg Arg
 65 70 75 80
 Lys Met Asp Phe Leu Leu Val Gln Leu Ala Leu Ala Asp Leu Tyr Ala
 85 90 95
 Cys Gly Gly Thr Ala Leu Ser Gln Leu Ala Trp Glu Leu Leu Gly Glu
 100 105 110
 Pro Arg Ala Ala Thr Gly Asp Leu Ala Cys Arg Phe Leu Gln Leu Leu
 115 120 125
 Gln Ala Ser Gly Arg Gly Ala Ser Ala His Leu Val Val Leu Ile Ala
 130 135 140
 Leu Glu Arg Arg Arg Ala Val Arg Leu Pro His Gly Arg Pro Leu Pro
 145 150 155 160
 Ala Arg Ala Leu Ala Ala Leu Gly Trp Leu Leu Ala Leu Leu Leu Ala
 165 170 175
 Leu Pro Pro Ala Phe Val Val Arg Gly Asp Ser Pro Ser Pro Leu Pro
 180 185 190
 Pro Pro Pro Pro Pro Thr Ser Leu Gln Pro Gly Ala Pro Pro Ala Ala
 195 200 205
 Arg Ala Trp Pro Gly Glu Arg Arg Cys His Gly Ile Phe Ala Pro Leu
 210 215 220
 Pro Arg Trp His Leu Gln Val Tyr Ala Phe Tyr Glu Ala Val Ala Gly
 225 230 235 240
 Phe Val Ala Pro Val Thr Val Leu Gly Val Ala Cys Gly His Leu Leu
 245 250 255
 Ser Val Trp Trp Arg His Arg Pro Gln Ala Pro Ala Ala Ala Ala Pro
 260 265 270
 Trp Ser Ala Ser Pro Gly Arg Ala Pro Ala Pro Ser Ala Leu Pro Arg
 275 280 285
 Ala Lys Val Gln Ser Leu Lys Met Ser Leu Leu Leu Ala Leu Leu Phe
 290 295 300
 Val Gly Cys Glu Leu Pro Tyr Phe Ala Ala Arg Leu Ala Ala Ala Trp
 305 310 315 320
 Ser Ser Gly Pro Ala Gly Asp Trp Glu Gly Glu Gly Leu Ser Ala Ala
 325 330 335
 Leu Arg Val Val Ala Met Ala Asn Ser Ala Leu Asn Pro Phe Val Tyr
 340 345 350
 Leu Phe Phe Gln Ala Gly Asp Cys Trp Leu Arg Arg Gln Leu Arg Lys
 355 360 365
 Arg Leu Gly Ser Leu Cys Cys Ala Pro Gln Gly Gly Ala Glu Asp Glu
 370 375 380
 Glu Gly Pro Arg Gly His Gln Ala Leu Tyr Arg Gln Arg Trp Pro His
 385 390 395 400
 Pro His Tyr His His Ala Arg Arg Glu Pro Ala Gly Arg Gly Arg Leu
 405 410 415

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Ala	Pro	Thr	Pro	Ser	Ala	Pro	Gln	Thr	Pro	Ala	Leu	Leu	Leu	Arg	Lys
			420					425						430	
Cys	Leu	Leu	Gly	Ala	Trp	Trp	Ser	Glu	Thr	Gly	His	Leu	Ser	Leu	Arg
		435					440					445			
Arg	Asn	Leu	Gln	Gly	Thr	Arg	Gly	Leu	Pro	Gly	Ser	Val	Gln	Ile	Thr
	450					455					460				
Arg	Gly	Arg	Arg	Val	Cys	Glu	Arg	Val	Thr	Leu	Lys	Leu	Ser	Pro	Ser
465					470					475					480
Ser	Thr	Leu	Leu	Phe	Pro	Ser	His	Val	Tyr	Ile	Ser	Leu	Cys	Ser	Ser
				485					490					495	
Ser	Phe	Ser	Ser	Ser	Leu	Gln	Phe	Leu	Ser	Tyr	Leu	Pro	Ile	Trp	Arg
			500					505						510	

Gln